FOUNDED IN 1856

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

AUGUST 20, 1951

SENIOR SPECIALISTS
LEGISLATIVE REFERENCE SERVICE
AUG 2[illegible] 1951
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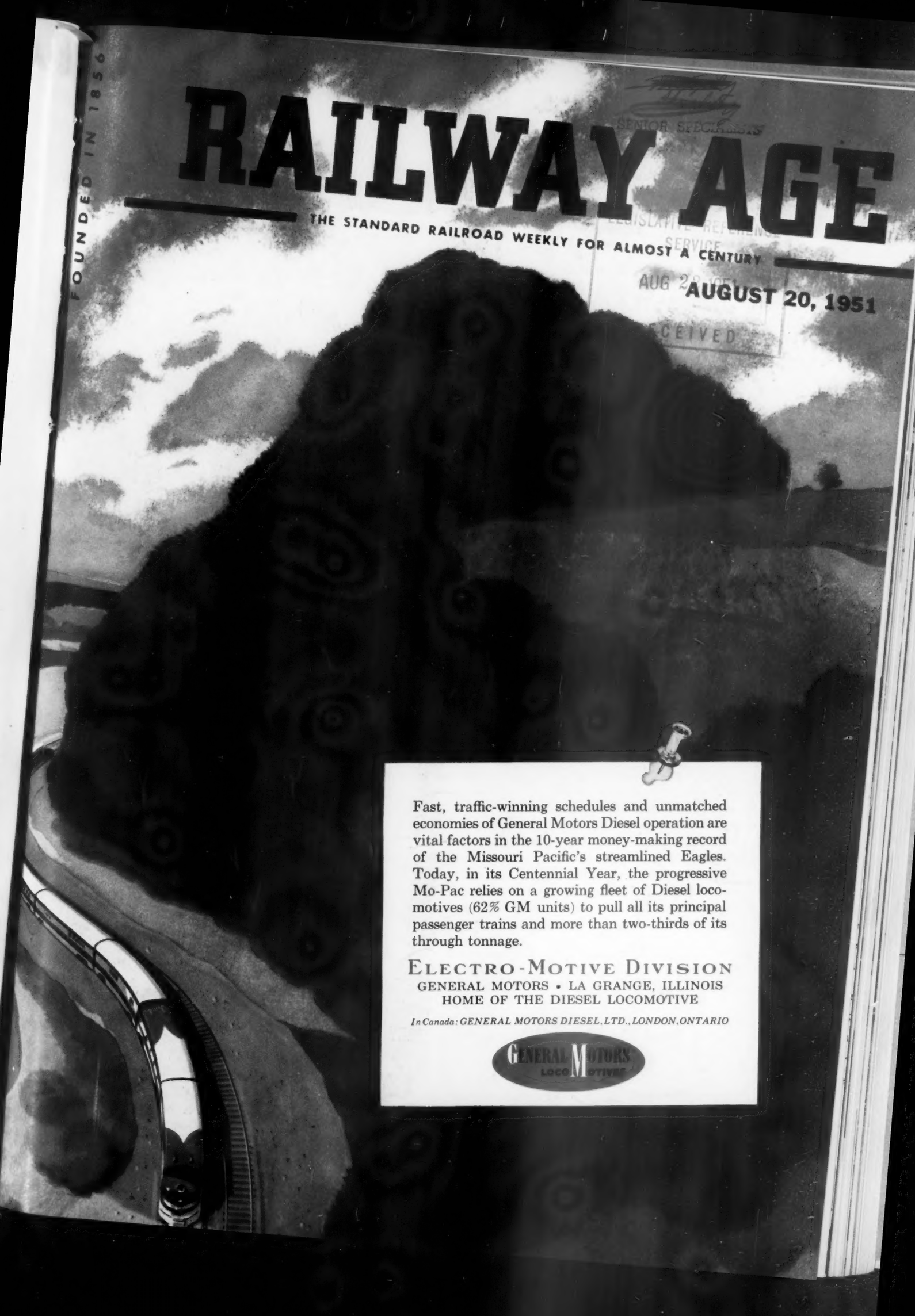


Fast, traffic-winning schedules and unmatched economies of General Motors Diesel operation are vital factors in the 10-year money-making record of the Missouri Pacific's streamlined Eagles. Today, in its Centennial Year, the progressive Mo-Pac relies on a growing fleet of Diesel locomotives (62% GM units) to pull all its principal passenger trains and more than two-thirds of its through tonnage.

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS • LA GRANGE, ILLINOIS
HOME OF THE DIESEL LOCOMOTIVE

In Canada: GENERAL MOTORS DIESEL, LTD., LONDON, ONTARIO

GENERAL MOTORS LOCOMOTIVES

Why does the boss keep riding me because our brake beam reclamation costs are too high? I didn't invent inflation. It's those danged worn or burnt-up brake heads that give us most of the trouble, too . . .

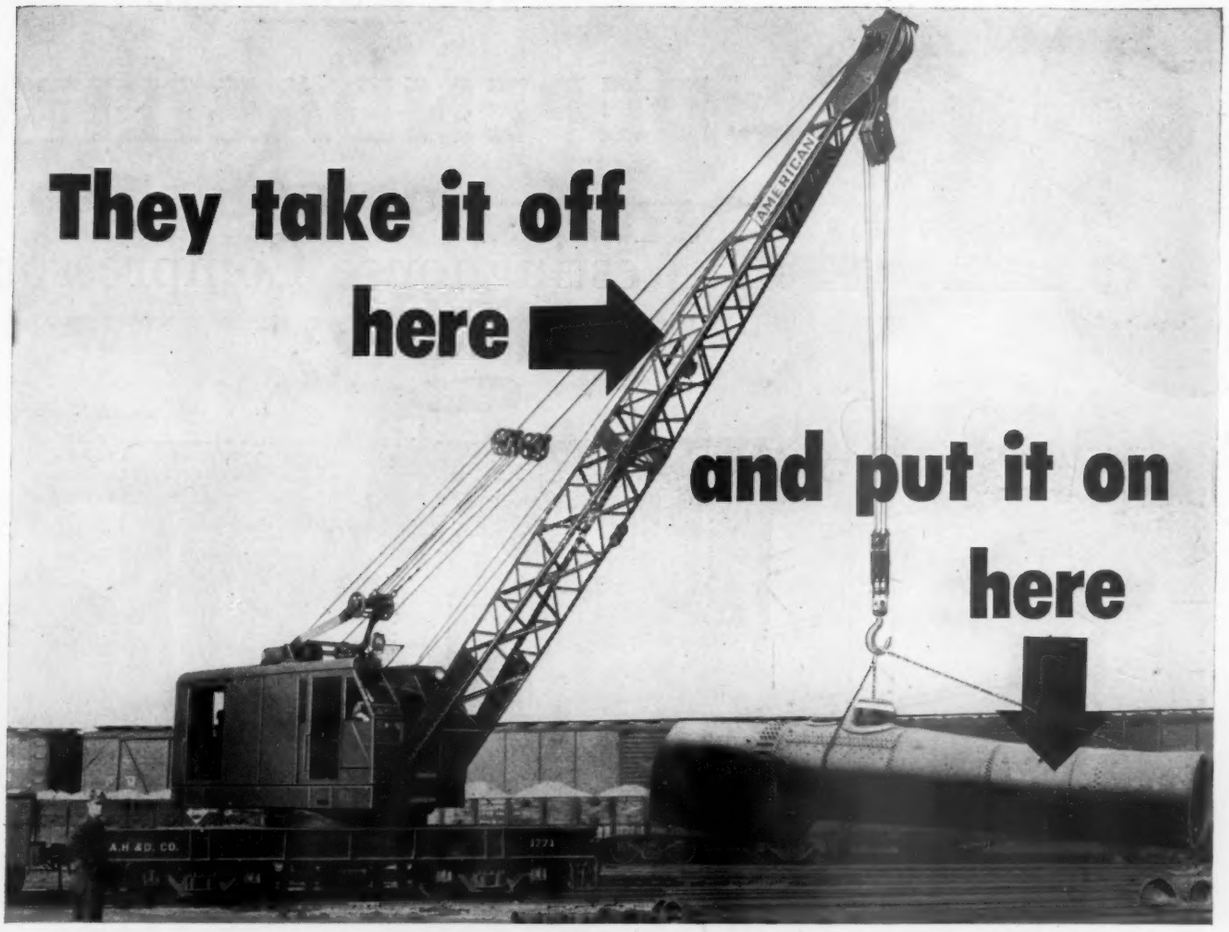
Why doesn't some guy invent a freight car brake beam that works like our passenger car beams, so we could change brake heads right at the car? It sounds simple enough, but maybe I'm just a dreamer . . .

The boss says I better dig up something solid on this brake beam problem when I get to the Allied Convention in Chicago in September, even if I have to wear the soles off my shoes covering the suppliers' exhibits...

Cheer up, feller—no sore dogs for me. I'm heading straight for Space 194-195 to get a gander at that new No. 18 certified brake beam with the passenger-type quick-change brake head.

It's **TRUSLOCK** of course

BUFFALO BRAKE BEAM CO. **NEW YORK**



Diesel locomotive crane built by American Hoist and Derrick Company. Bethlehem supplies this company with Mayari R steel for boom construction, and Bethlehem wire ropes for rigging.

. . . with MAYARI R

By using chord angles of low-alloy, high-strength steel the builders were able to cut the deadweight of this locomotive crane boom by 6 pct. This reduction in turn meant that an even larger reduction could be made in the counterweights. It also meant that less horsepower would be required for each ton of payload handled. And it added considerably to the lifting capacity of the crane.

These advantages are typical of the improvements in crane and derrick design that have been made possible with economical, low-alloy, high-strength Mayari R. With its superior mechanical properties this steel can be used in lighter gages without sacrificing strength or corrosion-resistance. For example, Mayari R has a minimum yield point of 50,000 psi as compared to 33,000 for plain carbon steel; and its ultimate tensile strength is 70,000 psi minimum. Mayari R also has 5 to 6 times more atmospheric corrosion-resistance than carbon steel, a feature that insures far longer service life.

Look into the possibilities of using strong, weight-saving Mayari R for all equipment where lower deadweight, higher strength and reduced operating costs are important considerations.

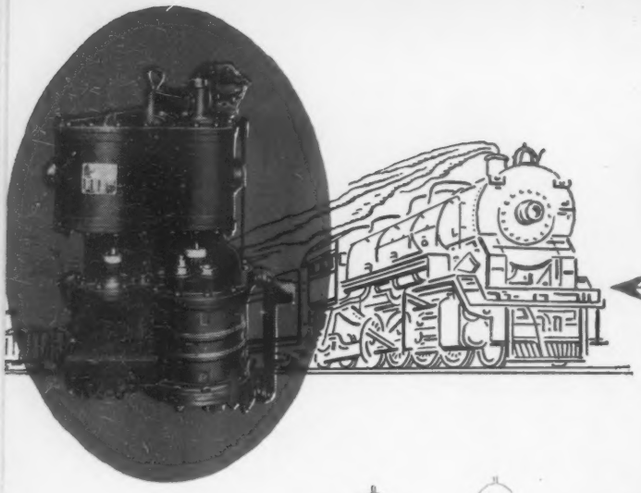
Call any Bethlehem sales office for further information on the properties and applications of Mayari R.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

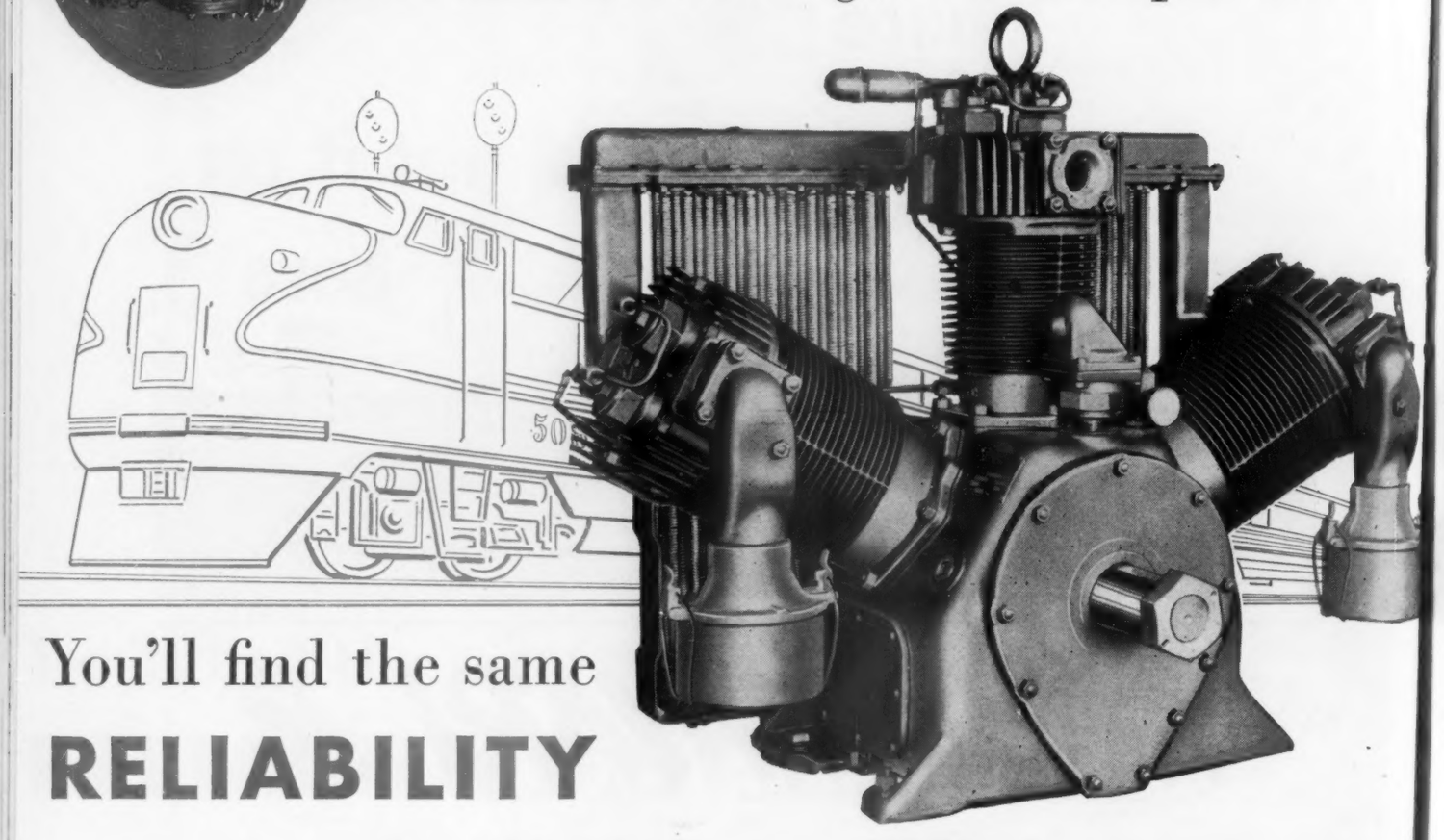
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

★ BETHLEHEM STEEL ★

Mayari R *makes it lighter... stronger... longer lasting*



You know the DEPENDABILITY OF THIS Westinghouse Compressor



You'll find the same RELIABILITY in the Westinghouse CD Compressor

When it comes to a reputation for dependability—it's hard to beat the one established by Westinghouse steam-driven air compressors. Tens of thousands are still chugging away on the sides of steam locomotives—and each is a guarantee of a positive, dependable air supply.

The same fine engineering that made this compressor such a completely reliable performer is behind the Westinghouse CD Compressor for Diesel service. Every feature that will contribute to dependability, efficiency, and trouble-free service has been included.

These include:

1) Radiator Type Intercooler between high pressu and low pressure cylinders. This reduces the tempera ture of the discharge air, and boosts efficiency.

2) Full pressure type lubrication system. A consta flow of filtered oil is maintained to connecting r crankshaft bearings and wrist-pin bearings.

3) Cylinder wall and main crankshaft ball bearin are positively lubricated by a throw-off of oil fro connecting rod bearings. Oil pressure relief val "meters" the oil in accordance with compressor spe

To give your new Diesel units a completely reliable air supply . . . use Westinghouse CD Compressors.

Westinghouse Air Brake Co.

AIR BRAKE DIVISION

WILMERDING, PA.

Brakes are Basic to Railroad Progress

PRINT IN BINDING

Vol. 131, No. 8 August 20, 1951

RAILWAY AGE

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IN THIS ISSUE

EDITORIAL COMMENT:

A Timely Warning on the "Union Shop" from D. R. Richberg 33
The Rate Decision 34

GENERAL ARTICLES:

How the D.L.&W. Gets Results from Annual Programming of Maintenance Work 40
How Fixed Charges Have Been Cut, by Dr. Julius H. Parmelee 45
New Uniform Rules for Canada 48
Package Controls for Diesel-Electric Locomotives, by M. D. Henshaw 50
Getting Businessmen's Travel at the Source 54
New 6.6 Per Cent Freight Rate Increase "Disappointing" to Carriers 55

NEWS FEATURES:

Rail Revenues Reach New Peak in First Half of '51—But Expenses Reach Higher Peak! 35
$369 Million Paid Out by Retirement Board 37
Rousing Session Covers Northwest Car Situation 37
Mexican Railways Plan Major Improvements 38

DEPARTMENTS:

News of the Railroad World 35
Revenues and Expenses 25
Operating Revenues and Expenses 74
Current Publications 81

Published by SIMMONS-BOARDMAN PUBLISHING CORPORATION, New York 7

Railway Age Railway Mechanical & Electrical Engineer Railway Engineering & Maintenance
Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
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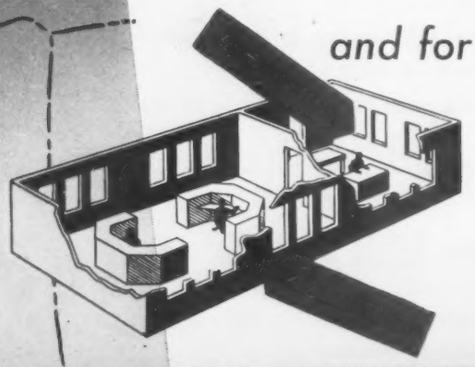
Cut Costs, Step-Up Efficiency

with "UNION" C.T.C.

Can Extra 5023 West get out of the yard ahead of 19? How far can he go for 14? Will 409 be in from the branch in time for Extra 3041 East to pick up the cut of cars on his head end? How long will it take to ice the cars on 5023 West?

Answers to all the questions involved in division-wide operations usually are known only at division headquarters . . . yet they have an important bearing on operating efficiency and costs.

With your "Union" C.T.C. machine located at division headquarters . . . those responsible for getting trains over the road can arrange meets and passes on a moment's notice . . . and since they are constantly informed of train location and track availability, maximum advantage can be taken of "breaks" as they occur. Therefore, for lowered operating costs . . .



and for maximum efficiency . . .

Concentrate Control at Division Headquarters

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE CO.

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, six months	
1951	$ 5,035,876,498
1950	4,223,707,275
Operating expenses, six months	
1951	$ 3,975,306,446
1950	3,354,141,920
Taxes, six months	
1951	$ 570,919,760
1950	434,899,975
Net railway operating income, six months	
1951	$ 388,044,695
1950	346,295,612
Net income, estimated, six months	
1951	$ 250,000,000
1950	209,000,000
Average price railroad stocks	
August 14, 1951	53.16
August 15, 1950	46.25
Car loadings, revenue freight	
31 weeks, 1951	23,722,915
31 weeks, 1950	21,740,583
Average daily freight car surplus	
Week ended August 11, 1951	3,958
Week ended August 12, 1950	4,573
Average daily freight car shortage	
Week ended August 11, 1951	18,325
Week ended August 12, 1950	38,925
Freight cars delivered	
July 1951	5,290
July 1950	3,464
Freight cars on order	
August 1, 1951	144,810
August 1, 1950	67,084
Freight cars held for repairs	
July 1, 1951	93,866
July 1, 1950	123,115
Average freight car turn-around time, days	
June 1951	14.79
June 1950	14.60
Average number railroad employees	
Mid-June 1951	1,295,045
Mid-June 1950	1,240,998

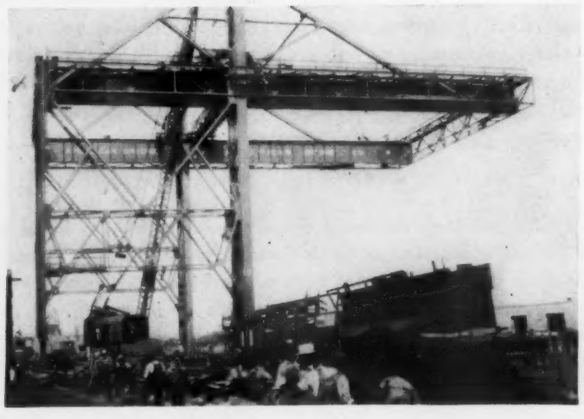
In This Issue . . .

HOW PLANNING PAYS OFF—in maintenance-of-way work on the Lackawanna is told in detail in the illustrated feature article which begins on page 40. Year-ahead programming, plus mechanization, has led to consistently high track standards, a lower maintenance ratio and better morale among supervisors and crews.

PACKAGED CONTROLS: Beginning on page 50, in an article prepared exclusively for Railway Age, General Electric's M. D. Henshaw tells how pre-packaged controls may be used to improve diesel locomotive availability and to reduce service detentions and repair costs.

THE FIXED CHARGE STORY: The fact, and even the extent, of the great reduction in railroad fixed charges in the past two decades is fairly common knowledge. But it probably is not so generally realized that the bulk of the reduction has been accomplished voluntarily, by solvent roads, and not forced by reorganization. Dr. J. H. Parmelee, on page 45, presents some interesting figures on debt and fixed-charge reductions—and also points out again that "the railroad stockholder remains the forgotten man in the security market."

IN THE NEWS SPOTLIGHT: Extensive improvements planned on Pittsburgh & Lake Erie.—C. N. may build new branch to serve B. C. aluminum plant.—Orders reported for 927 freight cars.—More details on the Pennsylvania's new Philadelphia ore pier.—Society of Traffic and Transportation announces program for its Chicago conference and seminar.—I.C.C. suspends eastern commuter fare increases.—Wilson calls 60-day halt on accelerated amortization certificates.—N. Y. C.-"non-ops" sign first eastern union shop agreement.—Northwest car situation subject of hot debate at Washington.—$369 million paid out by Retirement Board.



NEW PORT FOR SEATRAIN: Nearing completion at Savannah, Ga., is a new crane (left) for lifting railroad freight cars between the pier and ships of Seatrain Lines, Inc. Seatrain has before the Interstate Commerce Commission an application for approval of purchase of the Ocean Steamship Company from the Central of Georgia. Ocean discontinued regular coastwise service between Savannah, New York and Boston when the Maritime Commission acquired its vessels in 1942.

WEEK AT A GLANCE

In Washington . . .

CLIMBING SPIRAL: Like wages and prices, railroad revenues and expenses seem to be on an upward spiral—but the expenses, percentage-wise, are climbing more steeply. The latest "Monthly Comment" of the I.C.C.'s Bureau of Transport Economics and Statistics (page 35) shows that revenues, for this year's first half, were higher than in any comparable preceding period—and that *expenses, too, were at an all-time high.* But while revenues were up 107.7 per cent from the first six months of 1941, *expenses were up 133.5 per cent.* (Rates, incidentally, even including the latest increase, have advanced only 67.6 per cent.) As a result, the proportion of gross revenue carried down to net income was substantially less than half as large between January 1 and June 30, 1951, as it was in the same period of 1941.

EX PARTE 175: The final decision in the Ex Parte 175 freight rate case —briefly reported in last week's issue—is more comprehensively treated this week, in a feature article starting on page 55 and in an editorial on page 34.

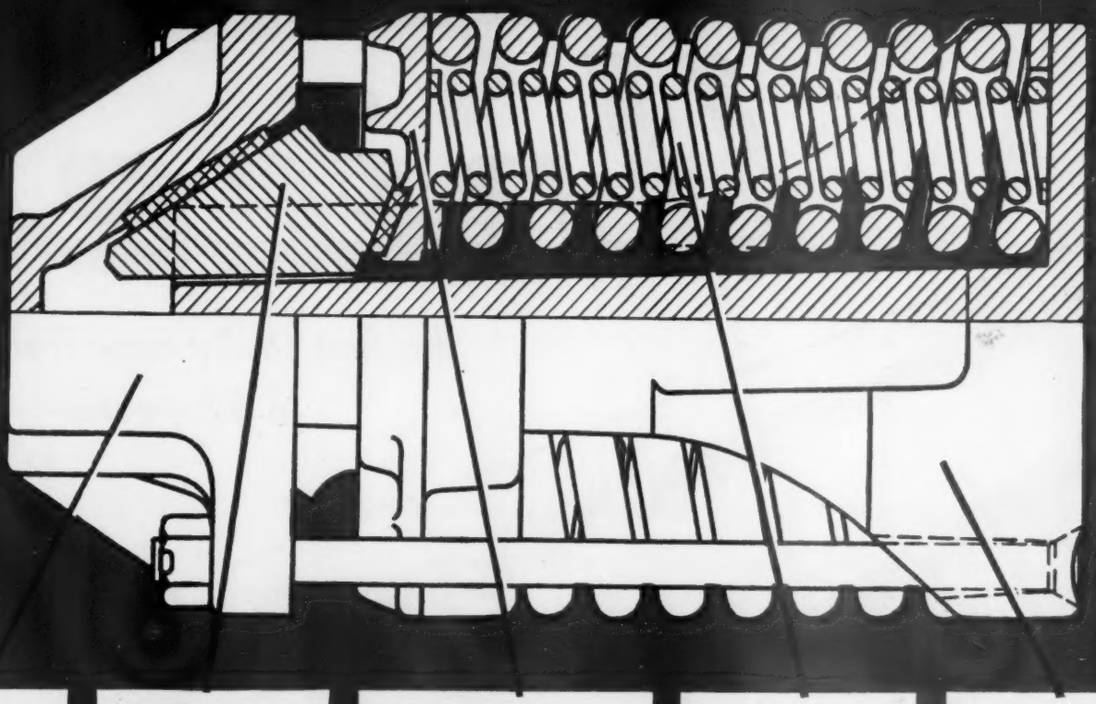
. . . And Elsewhere

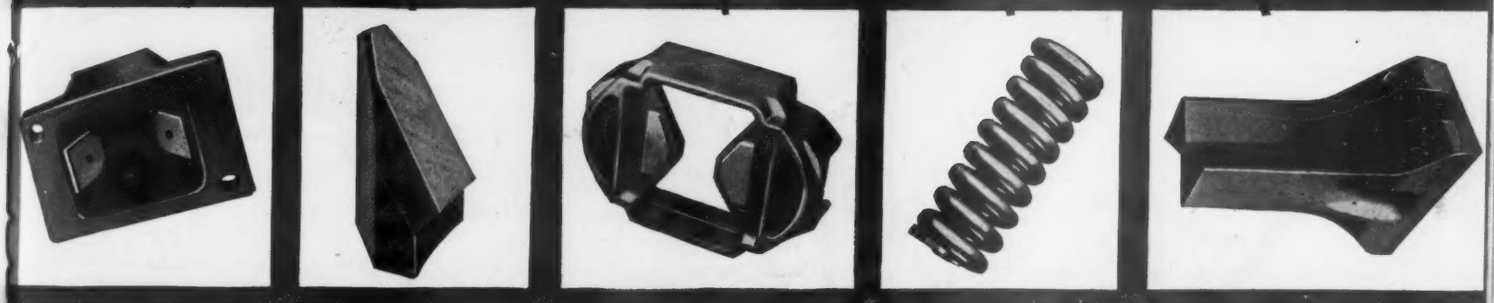
WHAT EMPLOYEES THINK: In the Chicago area, approximately 5,000 employees of the New York Central System are getting at their home addresses a questionnaire requesting their frank opinions on such questions as the adequacy of their pay, safety conditions, and what they think of their supervision. No names are to be signed and the answers go, not to the railroads involved, but to the University of Chicago Industrial Relations Center, which will tabulate all the replies and report the results to the employees and the participating railroads.

ONE WAY TO OVERCOME A CAR SHORTAGE: The National of Mexico has appealed to mining companies and other large industrial enterprises in Mexico to purchase rolling stock abroad, according to a recent issue of Foreign Commerce Weekly. Citing an alleged current shortage of 7,000 freight cars in Mexico, the appeal said cars bought in this manner would be operated by the N. of M. exclusively for mining companies and other industries for $1 (U. S.) a day to be paid to owners until the full cost is repaid. Payments would be in the form of credits by the railroad against running freight charges. With or without this plan, there are definite indications of a determined effort to improve both equipment and service on Mexican railways. Extensive purchases of motive power are planned in the near future and substantial credit for rehabilitation of the lines has been extended by the Export-Import Bank. Details of these efforts are included in the news columns.

UNITED COMES AROUND: It probably doesn't come under the heading of good news for the railroads, but United Air Lines—which long resisted the trend toward air coach travel and once argued that such service was unprofitable—is now talking out of the other side of its mouth. As reported in this issue's new columns, they have filed application for one daily coast-to-coast air coach flight, revealing at the same time that they are showing a profit on their West Coast coach services.

RUNNING ANY ONE RAILROAD is pretty much a full-time job, but Lewis A. Putnam, of Barre, Vt., is currently running three. Already president of the Barre & Chelsea and the St. Johnsbury & Lamoille County, he has also (as reported in last week's Railway Age*) assumed the temporary presidency of the Rutland, pending selection of a permanent successor to the late William E. Navin. Mr. Putnam is also chairman of the Rutland's board of directors.*





Why the National M-17-A is outstanding!

...Report No. 950 on AAR Five and Twelve Year Tests

● Our Report No. 950 (taken from Circular No. DV-1215, Annual Report of the AAR Committee on Couplers and Draft Gears) gives in detail some of the success of the National M-17-A Friction Draft Gear. A brief summary of the AAR Committee's conclusions shows how this gear gives outstanding performance in providing maximum car protection.

The report points out that in both the five and twelve year tests "externally these gears appeared in good shape... internally there was no detectable wear... the wedging surfaces were all nicely polished... friction surfaces all had nearly 100% contact and all surfaces were fairly straight."

And the report shows that after twelve years of service, the average capacity of the gears tested was still 37% above the AAR minimum of 18,000 foot-pounds required of new gears.

The National M-17-A gear stood up well on these tests because of its rugged design of inwardly acting wedge pressure against a centrally located friction member. Alloy steel castings with machined, ground and hardened friction surfaces assure accurate fit and long wear life.

A-3936

Write today for your copy of Report Number 950 on AAR five and twelve year tests: **National Malleable & Steel Castings Company, 10600 Quincy Avenue, Cleveland 6, Ohio.**

NATIONAL Products

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

COUPLERS ● TRUCKS ● YOKES ● DRAFT GEARS ● JOURNAL BOXES AND LIDS

Unicel

the first really new freight car in 52 years—

coming your way!

Good news for railroads who must build up larger fleets to meet the demands of a growing nation—and a growing economy.

UNICEL has been thoroughly pre-tested on the road and in the laboratory. It it now undergoing official road tests on one of the nation's largest railroads.

Built on the modern science of cellular laminates — stronger, more durable, lighter than conventional steel cars of equal size by over 15,000 pounds — UNICEL can carry a 65 ton payload!

That means less dead weight to haul — greater earning capacity.

Uses less steel than conventional cars and lends itself to modern, mass production techniques.

Goods are carried with greater safety in UNICEL. A specially cushioned floating draft gear absorbs impact shock and pull jolts — results in 66% less road shock! Operating costs and maintenance costs will be less.

Built-in Unistrapping eliminates dunnage, secures loads safely and easily. Smooth interior has no cracks, pockets or corners to hold dirt. Wider doors mean easier loading. The addition of an inner wall, special insulation and a mechanical refrigerating unit quickly convert UNICEL to a refrigerator car with *75% more capacity* than a conventional 40 foot car of comparable weight.

Get full information today. Write—

PRESSED STEEL CAR COMPANY, INC.

6 No. Michigan Avenue, Chicago, Illinois • 230 Park Avenue, New York

Fairbanks, Morse & Co.

600 SOUTH MICHIGAN AVENUE

CHICAGO 5

Railroad Division

SALES MANUAL LETTER NO. 54

To: Locomotive Sales and Service Managers

Subject: Distribution of Locomotives Since 1945
General and Miscellaneous

We are attaching an up-to-date distribution list, indicating the status of shipped and unshipped locomotives as of August 1, 1951.

Showing as it does the great progress we've made in a little over six years, this information should be quite valuable. Of course, it is to be used with discretion.*

V. H. Peterson, Vice President,
Railroad Division

VHP/q

V. H. Peterson

*We've removed the listings for the Pennsylvania Railroad and show them on the next pages with photos Mighty impressive! The worlds largest railroad, with every type of motive power service, uses all classes of Fairbanks-Morse locomotives — totaling 281,400 hp when last unit ordered is delivered

Cust. No.	F-M No.	Contract Number	Model Number	Rated HP	Engine Serial No.	Date Shipped
Pennsylvania						
9458-A	L-1111	LD-29	FRT-A	2000	882176	12-11-47
9456-B	L-1103	LD-29	FRT-B	2000	882179	11-12-47
9459-A	L-1113	LD-29	FRT-A	2000	882187	12-20-47
9460-A	L-1114	LD-29	FRT-A	2000	882189	1-6-48
[illegible]			FRT-B	2000	[illegible]	

Entering Horseshoe Curve, 4800 hp. Fairbanks-Morse "C-Line" locomotive hauls heavy through freight up this famous drag.

Down in Altoona, heavy duty 6000 hp. Fairbanks-Morse leaves at head end of long freight with Horseshoe Curve ahead.

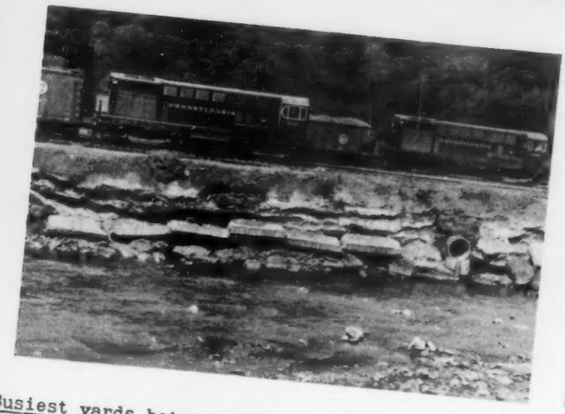
[illegible]	[illegible]	LD-29				
9472-A	L-1140	LD-35		[illegible]	882208	6-18-48
9472-B	L-1146	LD-35	FRT-B	2000	882210	6-18-48
9473-A	L-1141	LD-35	FRT-A	2000	882209	6-18-48
9474-A	L-1148	LD-35	FRT-A	2000	882212	6-24-48
9474-B	L-1147	LD-35	FRT-B	2000	882211	6-24-48
9475-A	[illegible]	[illegible]	FRT-A	2000	882213	[illegible]

Frequently at Englewood, three of the Pennsylvania's 2000 hp. Fairbanks-Morse units arrive with heavy tonnage of mixed freight.

Train No. 236 out of South Bend pulls into Richmond, Indiana, with load of passengers, express and mail. 4000 hp. Fairbanks-Morse locomotive.

[illegible]	10-L-62	LD-50	[illegible]	[illegible]	912204	6-21-48
5982	10-L-63	LD-50	LCA	1000	912207	6-21-48
5983	10-L-66	LD-50	LCA	1000	912209	6-22-48
5984	10-L-67	LD-50	LCA	1000	912210	6-27-48
5985	10-L-68	LD-50	LCA	1000	912211	6-26-48
5986	10-L-69	LD-50	LCA	1000	912212	6-30-48
9184	10-L-70	LD-50	LCA	1000	912213	6-30-48
9185	10-L-71	LD-50	LCA	1000	912214	6-30-48

Cust. No.	F-M No.	Contract Number	Model Number	Rated HP	Engine Serial No.	Date Shipped
Pennsylvania (cont'd.)						
9186	10-L-72	LD-50	LCA	1000	912215	6-30-48
9187	10-L-73	LD-50	LCA	1000	912216	7-19-48
9188	10-L-74	LD-50	LCA	1000	912217	8-13-48
9189	10-L-75	LD-50	LCA	1000	912218	8-17-48
		LD-50	LCA	1000	912220	8-20-48
				1000	912219	8-25-48
						9-16-48



Busiest yards between Pitcairn and Altoona. Johnstown keeps a pool of three of these 2000 hp. heavy duty, four-axle Fairbanks-Morse road transfer locomotives busy, frequently on a 24-hour basis.

9298	10-L-130					
9299	10-L-131	LD-53	LCA			
9300	20-L-42	LD-65	LEA	2000	920664	
9301	20-L-43	LD-65	LEA	2000	920663	1-31-49
	20-L-44	LD-65	LEA	2000	920665	2-18-49
		LD-65	LEA	20		2-22-49

Hauling the "General" was one of several demonstration trips made with famous Pennsylvania trains by this first "C-Line" 4800 hp. locomotive, before its delivery to another road.

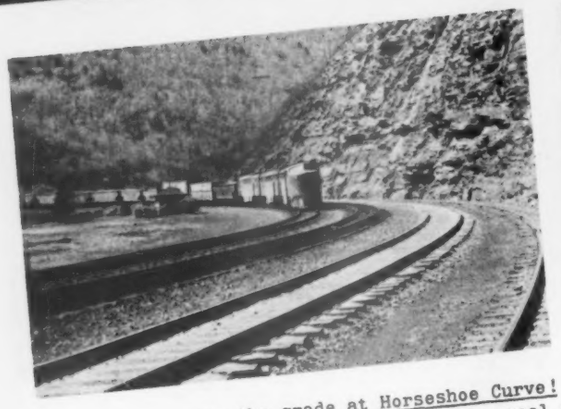
In numerous Pennsylvania yards, you will see these "work horse" 1000 hp. switchers. The "Pennsy" has over 50 of them at work.

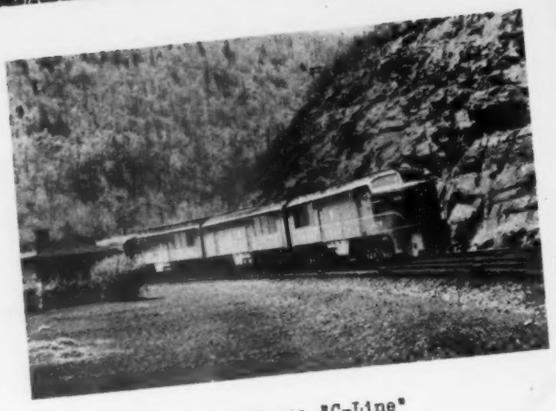
9091	10-L-161	LD-71	LCC	1000	926899	
9092	10-L-162	LD-71	LCC	1000	926900	9-30-49
9093	10-L-163	LD-71	LCC	1000	926898	10-6-49
9094	10-L-164	LD-71	LCC	1000	926901	10-14-49
9095	10-L-165	LD-71	LCC	1000	926902	10-20-49
9096	10-L-166	LD-71	LCC	1000	926903	10-31-49
9097	10-L-167	LD-71	LCC	1000	926204	10-31-49
9098	10-L-168	LD-71	LCC	1000	926905	11-22-49

Cust. No.	F-M No.	Contract Number	Model Number	Rated HP	Engine Serial No.	Date Shipped
Pennsylvania (cont'd.)						
9099	10-L-169	LD-71	LCC	1000	926906	11-29-49
9448-A	16-L-339	LD-88	CFA-16-4	1600	933679	9-6-50
9448-B	16-L-355	LD-88	CFB-16-4	1600	933677	9-6-50
9449-A	16-L-340	LD-88	CFA-16-4	1600	933678	9-6-50
9450-A			CFA-16-4	1600	933680	
			CFB-16-4			
8917	21-L-453	LD-105	H-20-44	2000	944386	5-10-51
8918	21-L-454	LD-105	H-20-44	2000	944387	5-14-51
8919	21-L-455	LD-105	H-20-44	2000		
8920	21-L-456	LD-105				
8921	21-L-457					
			H-16-44	1600		
8813		LD-129	H-16-44	1600		
8814		LD-129	H-16-44	1600		
8815		LD-129	H-16-44	1600		
8816		LD-129	H-16-44	1600		

One of the Pennsylvania's Fairbanks-Morse "C-Line" 4800's enroute to yard at Altoona to pick up a heavy drag.

Familiar silhouette around Richmond -- Fairbanks-Morse 1000 hp. switchers doing the smallest or toughest switching jobs with equal ease and economy.

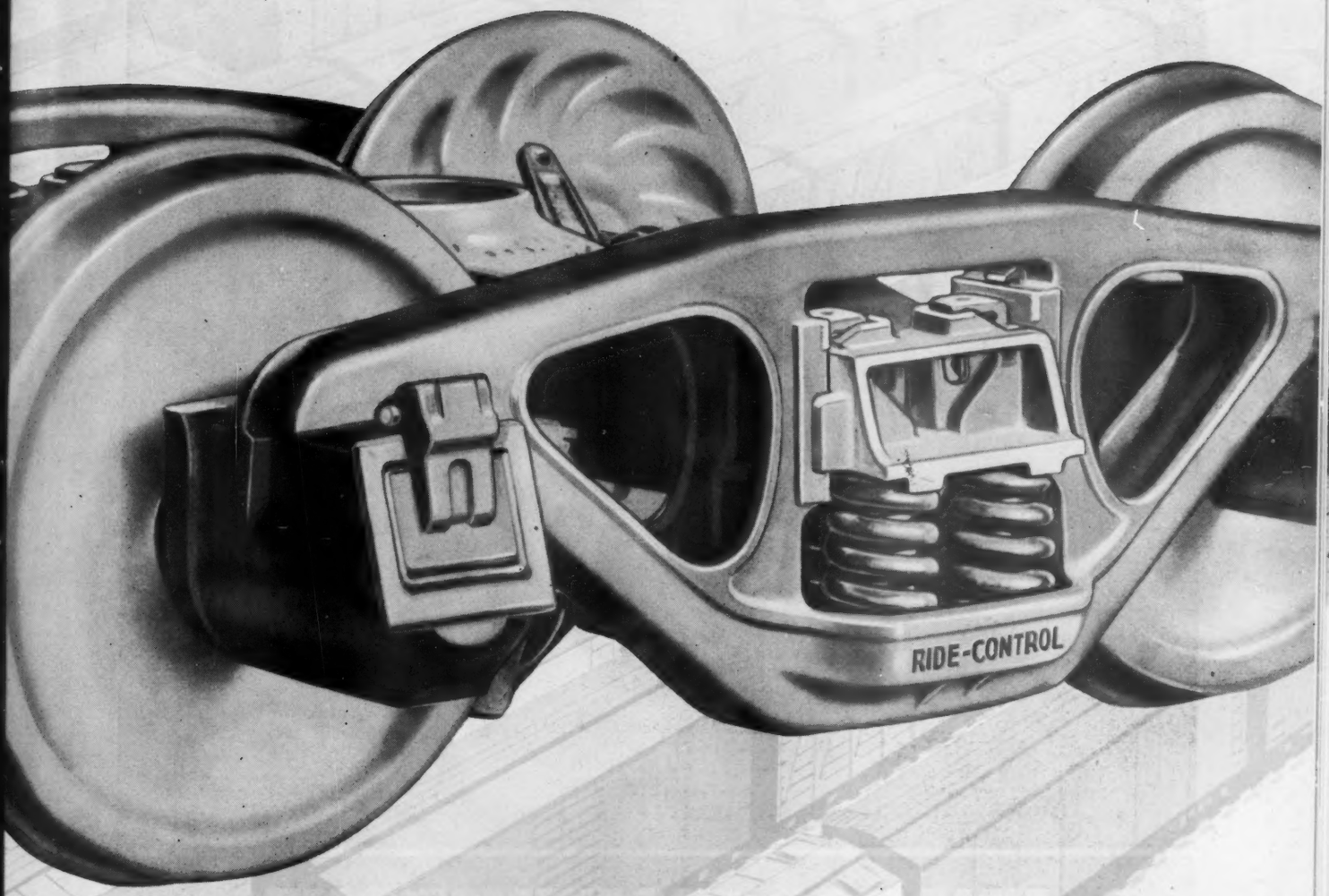




Down the grade at Horseshoe Curve! A 4800 hp. Fairbanks-Morse "C-Line" freight locomotive with long coal train and a 6000 hp. Fairbanks-Morse with passengers and express.

FAIRBANKS-MORSE, a name worth remembering

FAIRBANKS, MORSE & CO., Chicago 5, Ill.



MORE USERS BUY MORE A·S·F RIDE-CONTROL®

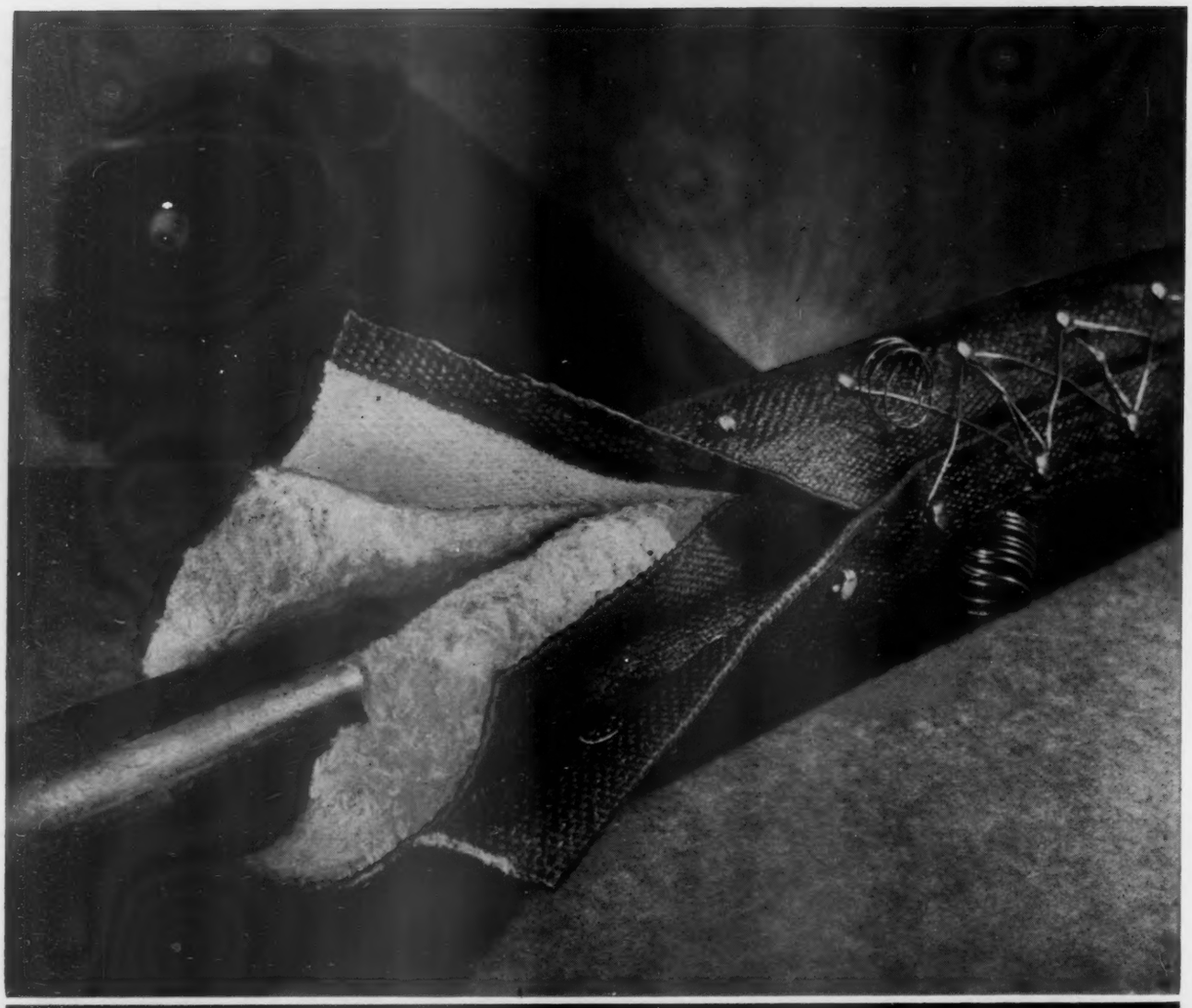
TRUCKS THAN ALL OTHER TRUCKS COMBINED

...BECAUSE RIDE-CONTROL IS SMOOTH-RIDING,

LONG-LASTING—CUTS OPERATING COSTS!

AMERICAN STEEL FOUNDRIES

Mint Mark of ⬡ Fine Products



UNARCO WOVENSTONE®

Lace-on Train Pipe Insulation

Contributing to passenger comfort on the nation's trains for more than 25 years—Wovenstone is recognized for its high insulating efficiency, rugged construction and long life. These qualities are reflected in the lower cost of delivering steam heat and hot water to the cars. The longer the train, the greater the need for Wovenstone.

UNARCO

UNION ASBESTOS & RUBBER COMPANY

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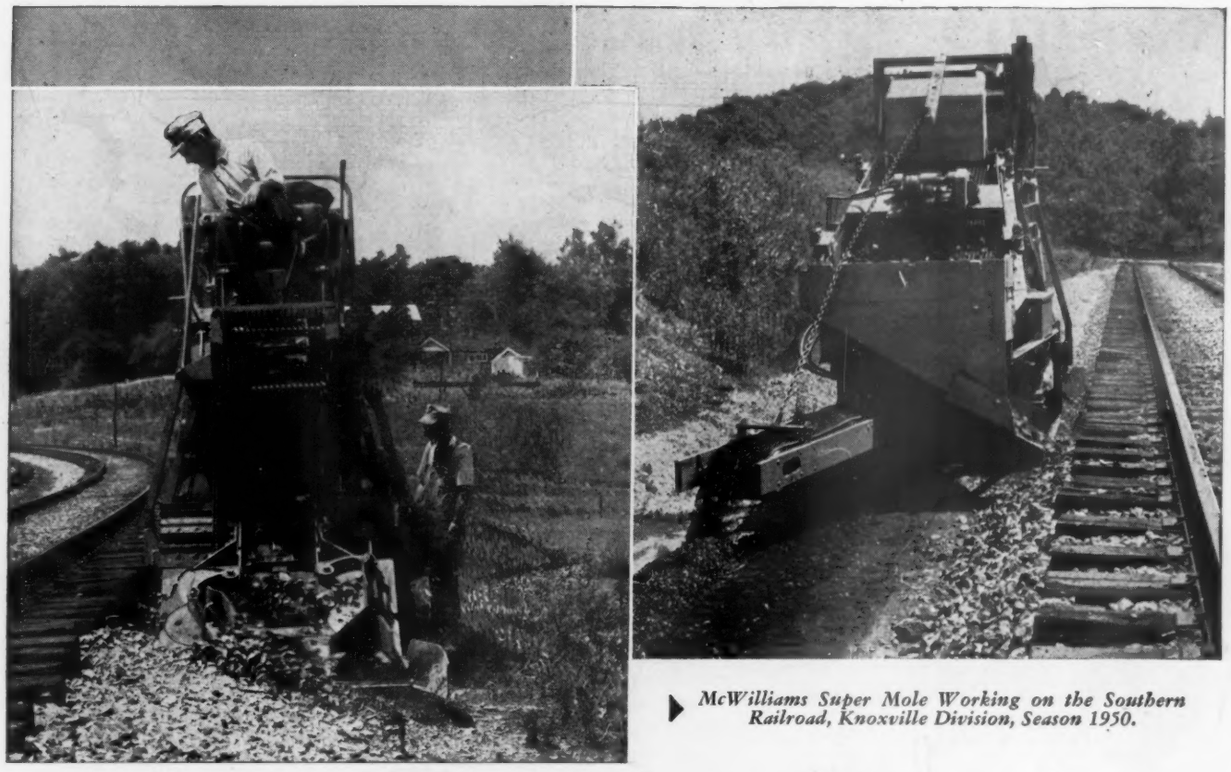


McWilliams Super Mole Working on the Southern Railroad, Knoxville Division, Season 1950.

Now You Can Clean Track Shoulder at 1,500 Feet Per Hour at Less Than 3½ Cents Per Foot

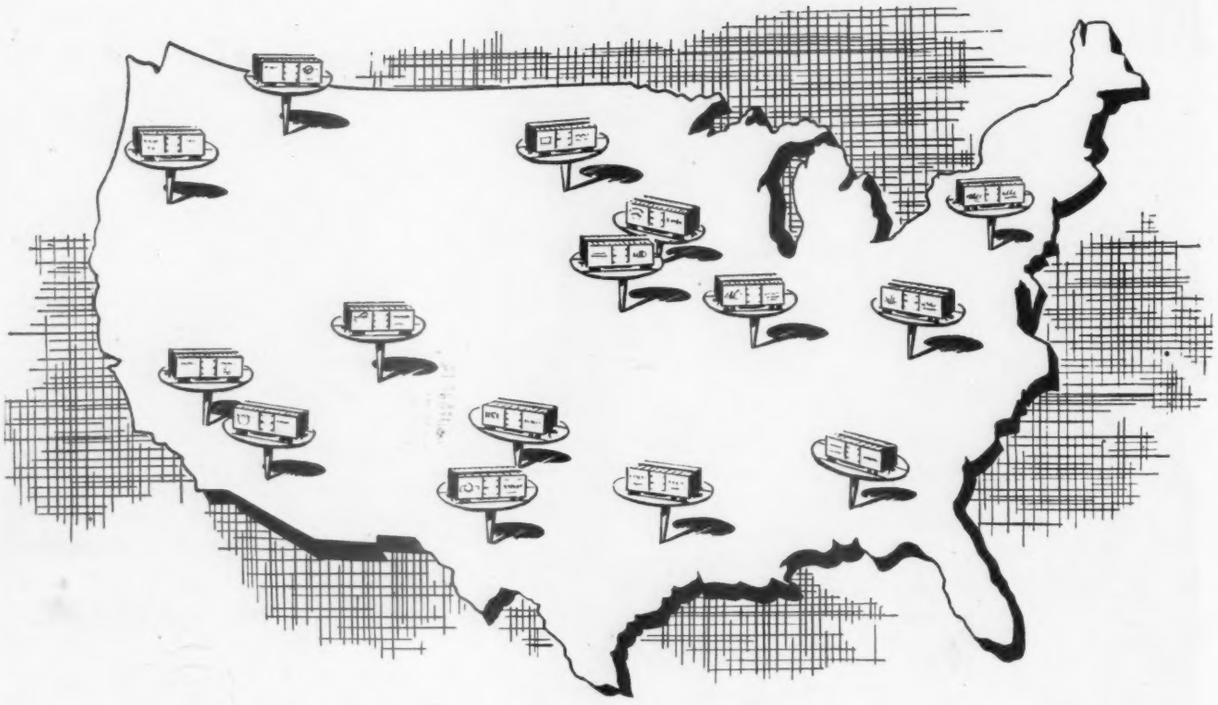
You get new cleaning economy with the McWilliams Super Mole because now with only one operator and one helper you get fast, off-track cleaning on a mobile unit. The Super Mole excavates and cleans at speeds ranging from 800 ft. to 4,000 ft. per hour—at a cost of less than 3½ cents per foot. It is crawler mounted to give ease of crossing road beds, highways and maneuvering around obstructions. To learn more about the economy of road bed maintenance with the Super Mole write to Railway Maintenance Corporation, P.O. Box 1888, Pittsburgh, Pa.

SPECIFICATIONS

5 traveling speeds—1.5 to 5.4 M.P.H.
5 excavating and cleaning speeds—800 to 4,000 ft. per hr.
Length—20′ 0″
Height—8′ 0″
Digging Width—5′ 0″
Width over treads—4′ 4″
Width of tread—12″
Engine—4-cycle diesel
Governed speed—1450 R.P.M.
Total weight—16,000 lbs.

Railway Maintenance Corporation

Designers and Manufacturers of: Moles; Super Moles; McWilliams Crib Cleaners; HR Track Raiser and Air Tampers; McWilliams Multiple Tool Air Tamper; R.M.C. Rail Joint Packing.



AT ANY *Location* ...AT ANY *Temperature* ...

1 LOW CONDUCTIVITY. Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity—.25 btu per square foot, per hour, per degree F., per inch thick.

2 LIGHT WEIGHT. Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

3 PERMANENT. Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

4 EASY TO INSTALL. Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

5 COMPLETE RANGE. STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

6 HIGH SALVAGE VALUE. The all-hair content does not deteriorate with age; therefor has high salvage value. No other type of insulation offers a comparable saving.

Streamlite HAIRINSUL
Protects Perishables!

Streamlite Hairinsul is recognized by car building engineers to be the most efficient under all operating conditions. The successful use of all-hair Hairinsul for nearly half a century is proof that service conditions never impair its high insulating efficiency.

Major advantages of Streamlite Hairinsul are given at the left. Write for complete data.

Streamlite **HAIRINSUL**

The Standard By Which All Other Refrigerator Car Insulations Are Judged

AMERICAN HAIR & FELT CO.

Dept. H18, Merchandise Mart, Chicago 54, Ill.

Are you turning in all your SCRAP?

Don't wait for "George" to do it

You'll find your local scrap dealers listed in the yellow pages of the phone directory.

IF you are a steel user, this important job of getting more scrap back to the mills is directly up to *you*. You just cannot afford to sit idly by while the scrap shortage gets worse. For unless everyone really pitches into this job of digging out all the scrap possible, steel production is bound to suffer, and every steel user, in more or less degree, will suffer too.

More scrap means *more* steel—it's as simple as that.

Right now some mills have only a bare two-days' supply of scrap on hand. Others have even less. Some steel-making furnaces already have had to shut down for lack of scrap. The situation is serious. Only you can help improve it.

By turning in every piece of worn-out equipment, every obsolete tool and machine, in fact every pound of iron and steel scrap you can comb out of your plant, you'll be helping relieve the worst scrap shortage since Pearl Harbor days . . . and the steel industry will be able to produce more of the steel you need.

Remember—it takes at least one-half ton of scrap to make one ton of steel. To maintain steel's present high production schedules requires more than 1400 carloads of industrial scrap *every* day. So turn in your scrap—ALL your scrap—and keep the mills rolling. This is more than a shortage. It's an emergency that vitally concerns you—and us—and the Nation.

This page would ordinarily be used to tell you about

U·S·S MANGANESE
STEEL RAILROAD CROSSINGS

but, because without SCRAP we cannot produce steel, we are asking instead for your all-out help in getting more SCRAP to the mills.

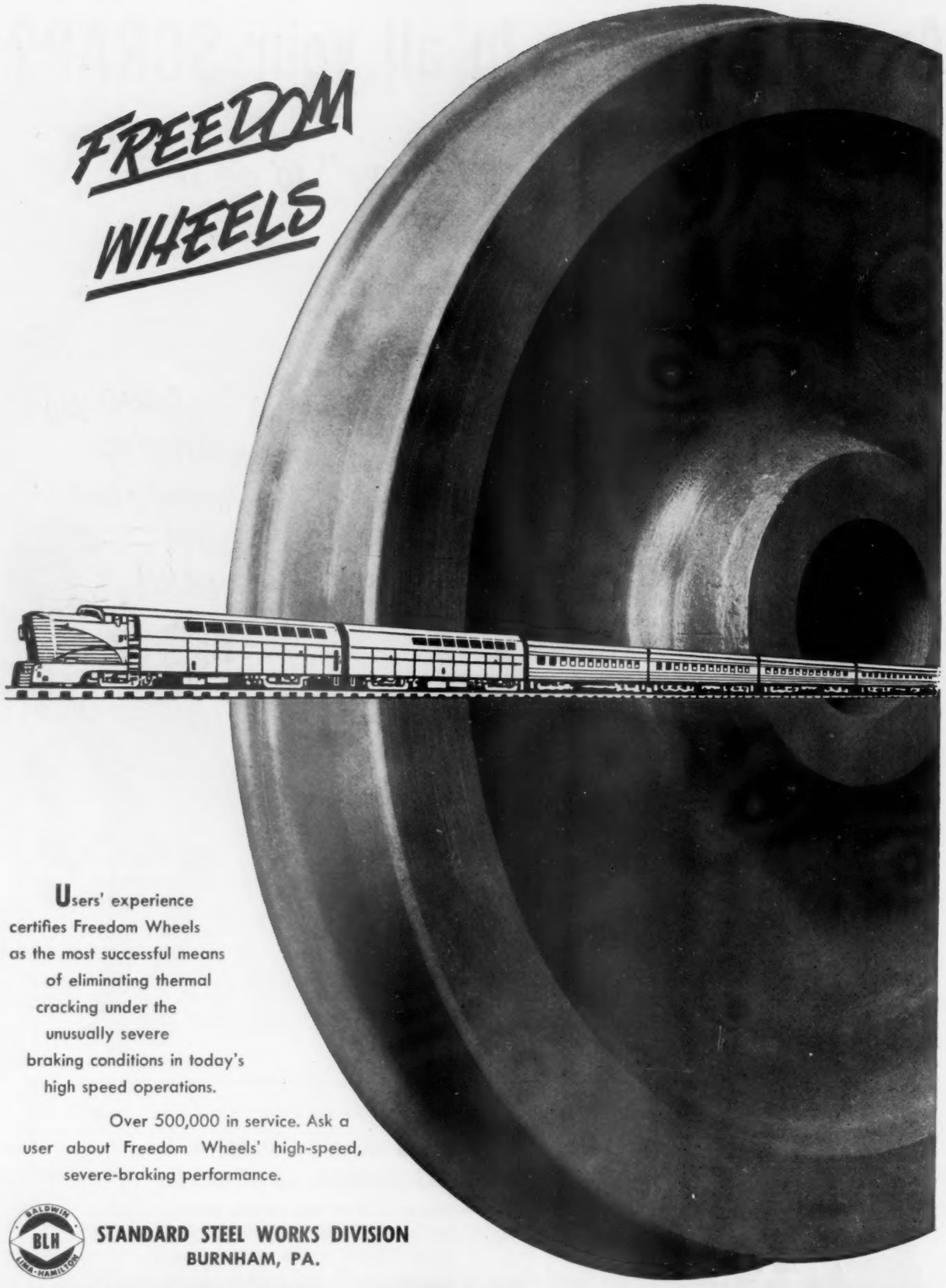
UNITED STATES STEEL COMPANY, PITTSBURGH · COLUMBIA STEEL COMPANY, SAN FRANCISCO
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS TRADE MARK

1-1348-A

UNITED STATES STEEL

FREEDOM WHEELS



Users' experience certifies Freedom Wheels as the most successful means of eliminating thermal cracking under the unusually severe braking conditions in today's high speed operations.

Over 500,000 in service. Ask a user about Freedom Wheels' high-speed, severe-braking performance.

BALDWIN BLH LIMA-HAMILTON

STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN-LIMA-HAMILTON

General Offices: Philadelphia 42, Pa. **Offices in Principal Cities**

Where Steel Construction Counts

Experience shows that the high-strength steel cell construction of EDISON batteries is a very important reason for their successful use in axle-generator-battery systems in cabooses where the mechanical shocks incidental to freight-train operation put a premium on mechanical durability.

In other respects also, axle-generators and EDISON batteries are dependable, economical and practical as an electric power supply for cabooses. They are dependable and economical as proved by their many years of car lighting service. They are practical because they comprise an all-electric system, and, as such, can be maintained in their entirety by the railroad's electrical department.

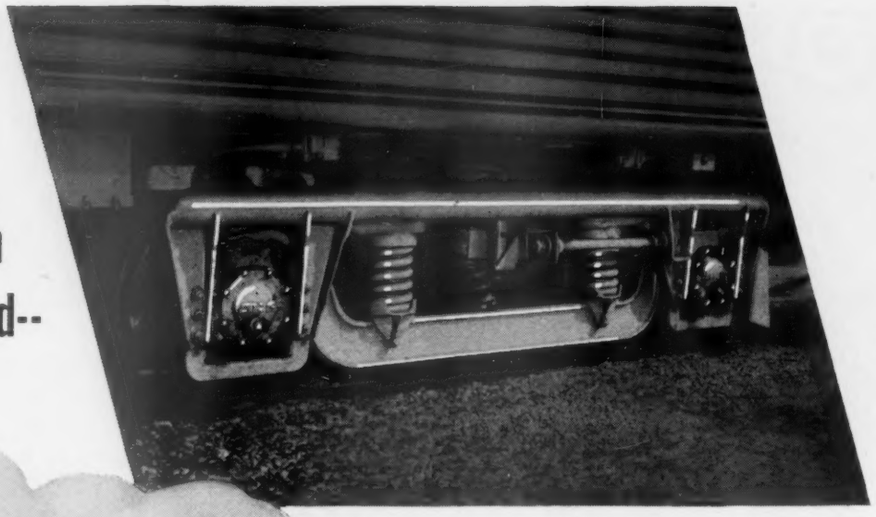
And EDISON batteries, in addition to their great mechanical durability, withstand the overcharging and overdischarging inherent in generator-battery systems; they are light in weight; they deliver long life at low cost per year. Get a current price quotation; see how little higher it is than for batteries of comparable capacity which do not have steel cell construction. And consider how their long life further cuts costs by postponing the need for replacement in an inflation economy. EDISON Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N. J.

EDISON

Nickel • Iron • Alkaline

STORAGE BATTERIES

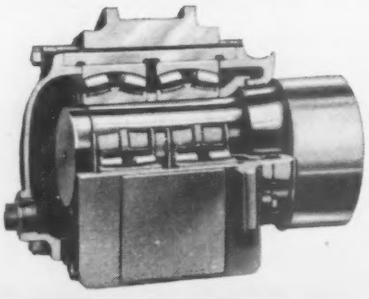
the word has gotten around--



*Write the Budd Company, Philadelphia 32, Pennsylvania for details on the RDC.

"BUDD HAS DONE IT AGAIN"

Just about a year ago, Budd introduced the revolutionary Self-Propelled Passenger Car—RDC*—for main, branchline, commuter and interurban service. Four types are now in production—and in slightly more than a year, Budd has sold 58 units to 7 main-line domestic railroads and to foreign railroads in Cuba, Australia, and Saudi Arabia. Fast to accelerate, smooth to stop, economical to operate, the RDC is modern in every detail, built right to run at top-performance at all times. SKF Spherical Roller Journal Bearings are standard RDC equipment. Their inherent ability to carry radial, thrust and combined loads and ability to compensate for misalignment, together with consistent quality that's possible through rigidly controlled tolerances, make them the logical choice wherever smooth, dependable and economical operation is a "must." 7240A



SKF
JOURNAL BOXES AND BEARINGS

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
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SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT *bearings.*

WHEN SNOW FLIES...
Be Prepared With COMMONWEALTH
PILOT SNOW PLOWS

COMMONWEALTH One-Piece Pilot Snow Plows applied to diesel switchers and road switchers have proved of great value in keeping rails clear of drifting snow without the costly repeated use of large snow plow equipment.

These rugged cast steel pilot plows can be easily applied, removed and reapplied. Also, as a permanent application, they help solve year round operating problems by serving as strong deflecting pilots which clear the way of objects, substantially reducing the possibility of accidents or derailments. They have provision for ample adjustment to the desired height above the rail and may be used without interference with normal coupling operations.

Act now to reduce *your* next winter's operating costs with **COMMONWEALTH** One-Piece Cast Steel Pilot Snow Plows.

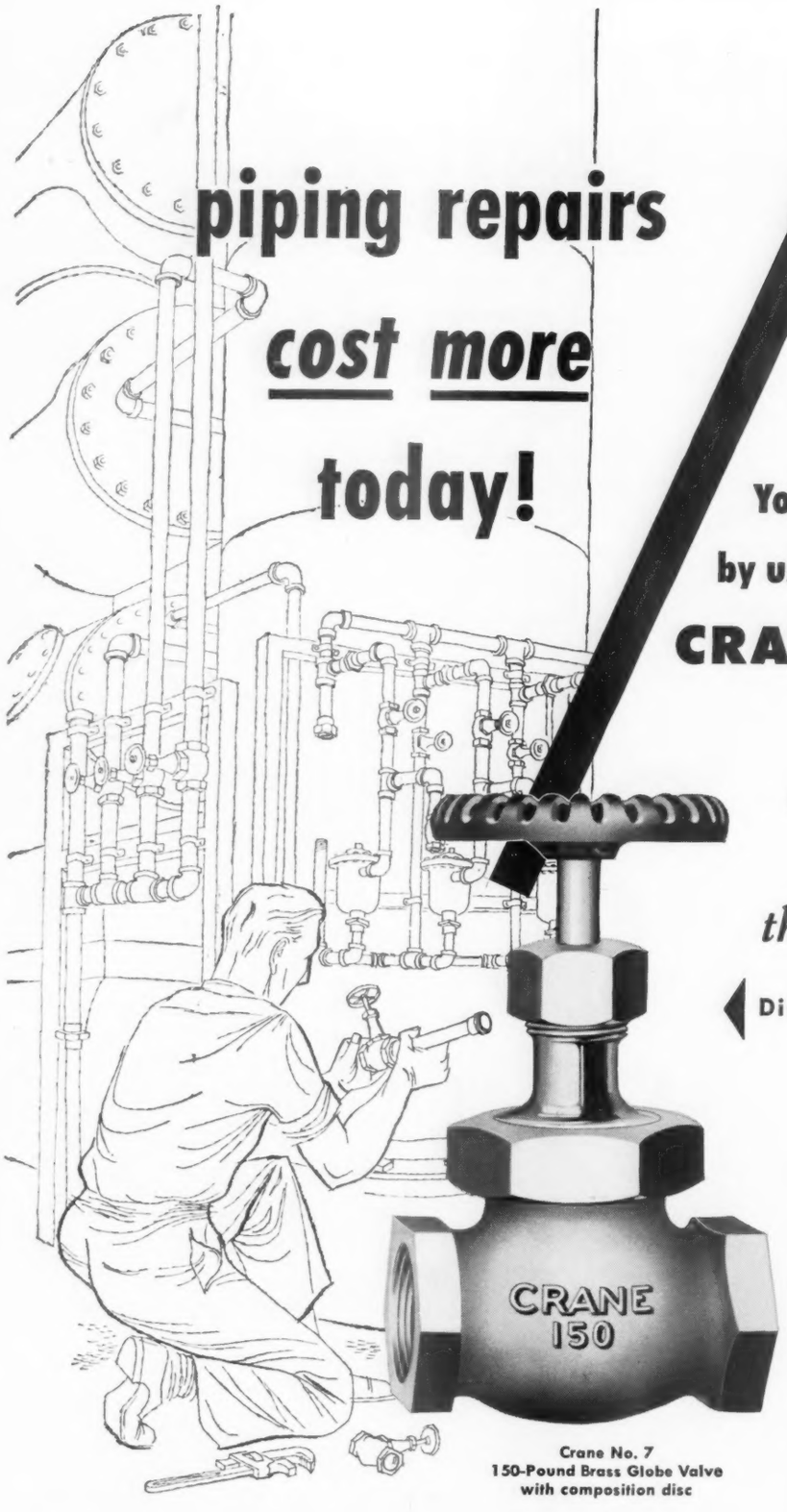
Commonwealth Pilot Snow Plow applied to 1500 H.P. Road Switcher

Commonwealth Cast Steel Pilot Snow Plow

GENERAL STEEL CASTINGS

GRANITE CITY, ILL. **EDDYSTONE, PA.**

piping repairs *cost more* today!



Crane No. 7
150-Pound Brass Globe Valve
with composition disc

You spend less
by using Dependable Quality
CRANE VALVES

. . . That's why more Crane Valves are used than any other make

Disc repairs made in a minute

You save maintenance time and money when you use Crane No. 7 Brass Valves with composition disc. When a leak shows up, you don't change valves . . . just open the bonnet joint and slip on a spare disc holder with a new disc already in it.

And by changing the type of disc, you can adapt No. 7 valves to a wide range of services—steam, hot water, cold water, air, oil, gas, and gasoline. Made in globes and angles; screwed or flanged ends.

Simplified maintenance and complete adaptability to your service typify Crane Quality valves and fittings for every need. That's why they cost less in the long run.

CRANE CO.

General Offices:
836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Akron, Canton & Youngstown	June	171	449,686	41	468,343	74,022	55,401	33,352	143,338	334,069	71.3	134,274	58,251	60,727	80,700
	6 mos.	171	2,677,661	345	2,781,259	408,359	289,505	197,969	830,508	1,904,086	68.5	877,173	390,255	398,188	403,310
Atchison, Topeka & Santa Fe	June	13,097	37,624,180	5,130,653	46,461,969	8,102,374	7,999,487	1,126,691	15,818,865	35,030,923	75.4	11,431,046	6,433,754	4,281,889	6,025,375
	6 mos.	13,096	230,752,740	25,235,646	277,347,999	42,385,269	53,319,520	6,903,187	91,747,869	205,632,720	74.1	71,715,279	40,892,480	29,091,081	26,545,613
Atlanta & St. Andrews Bay	June	82	289,268	1,974	299,839	32,148	25,027	9,153	64,120	143,365	47.8	156,474	83,835	44,937	47,963
	6 mos.	82	1,735,936	11,871	1,795,217	211,770	122,684	49,258	363,696	830,069	46.2	965,148	516,542	282,228	302,514
Atlanta & West Point	June	93	272,362	55,357	368,876	48,511	59,829	15,369	162,553	310,612	84.2	58,264	29,452	6,977	17,793
	6 mos.	93	1,730,005	295,953	2,275,796	305,633	335,597	93,364	1,000,906	1,883,342	82.8	392,454	204,662	68,065	48,015
Western of Alabama	June	133	286,466	52,659	369,976	46,233	64,322	15,887	137,856	287,022	77.6	82,954	45,574	26,544	18,614
	6 mos.	133	1,888,806	288,601	2,353,326	343,481	369,064	95,219	862,957	1,808,744	76.9	544,582	294,975	198,044	114,952
Atlantic & Danville	June	205	122,943	.....	125,647	28,000	8,392	9,787	44,521	102,665	81.7	22,982	9,062	—780	3,018
	6 mos.	205	873,008	.....	891,013	168,000	56,296	60,859	310,954	666,381	74.8	224,632	62,833	71,610	37,823
Atlantic Coast Line	June	5,453	10,582,778	1,509,033	12,891,222	2,410,203	2,676,517	342,994	4,885,017	10,879,037	84.4	2,012,185	1,225,000	477,206	366,904
	6 mos.	5,453	65,639,439	10,946,165	82,216,695	17,435,447	15,662,555	2,018,550	30,603,582	69,333,374	84.3	12,883,321	7,450,000	3,035,503	5,457,328
Charleston & Western Carolina	June	343	528,426	4,024	546,663	158,204	74,455	17,428	178,124	441,207	80.7	105,456	45,000	39,117	24,220
	6 mos.	343	3,128,524	56,926	3,269,783	840,629	479,372	101,588	1,002,592	2,498,770	76.4	771,013	355,000	344,152	268,818
Baltimore & Ohio	June	6,188	33,764,936	2,316,044	38,387,800	5,650,824	8,618,341	867,179	15,027,158	31,667,011	82.5	6,720,789	2,758,801	2,908,852	3,089,184
	6 mos.	6,188	194,236,555	12,584,816	219,505,661	28,851,306	50,253,362	5,006,167	89,200,882	182,077,833	83.0	37,427,828	15,137,927	16,873,477	15,989,449
Staten Island Rapid Transit	June	29	212,954	53,586	274,508	51,043	38,683	1,780	148,023	266,047	96.9	8,461	35,428	—42,964	—27,242
	6 mos.	29	1,393,661	288,505	1,714,575	315,269	226,081	8,638	864,557	1,588,377	92.6	126,198	213,961	—172,649	—276,276
Bangor & Aroostook	June	602	694,060	37,846	768,252	186,022	180,336	13,708	238,503	678,960	88.4	89,292	76,840	64,769	95,888
	6 mos.	602	5,696,959	206,979	6,120,855	1,083,705	1,064,084	81,754	1,564,954	4,165,632	68.1	1,955,223	998,752	868,670	1,711,282
Bessemer & Lake Erie	June	212	3,139,053	659	3,173,347	226,837	847,117	18,302	602,060	1,780,679	56.1	1,392,668	956,548	535,950	705,759
	6 mos.	212	13,034,783	5,159	13,193,587	1,104,802	3,697,153	109,273	3,014,762	8,423,562	63.8	4,770,025	3,456,203	2,628,635	1,848,170
Boston & Maine	June	1,702	5,620,490	1,035,734	7,341,807	1,447,451	1,173,704	116,793	3,070,142	6,128,663	83.5	1,213,144	559,532	343,949	708,318
	6 mos.	1,702	34,465,411	5,511,985	43,921,343	7,656,564	7,265,829	678,557	18,891,103	36,405,625	82.9	7,515,718	3,631,398	1,706,763	2,121,478
Cambria & Indiana	June	35	134,520	.....	134,600	3,068	81,232	88	18,401	106,884	79.4	27,716	74,186	66,623	64,874
	6 mos.	35	821,675	.....	821,930	67,720	490,376	730	152,679	759,298	92.4	62,632	408,283	362,379	245,289
Canadian Pacific Lines in Maine	June	234	309,170	35,015	374,048	126,072	68,494	7,479	156,192	369,557	98.8	4,491	26,761	—57,241	—149,008
	6 mos.	234	3,387,261	244,793	3,787,530	606,670	524,964	42,521	1,324,260	2,570,696	67.9	1,216,834	165,547	677,567	132,766
Canadian Pacific Lines in Vermont	June	90	203,289	9,534	230,956	53,910	30,054	6,181	124,618	222,127	96.2	8,829	12,155	—57,301	—80,394
	6 mos.	90	1,172,976	73,080	1,352,437	311,919	196,362	35,160	704,694	1,292,117	95.5	60,320	73,321	—345,727	—494,399
Central of Georgia	June	1,815	2,895,503	243,604	3,401,317	626,550	564,194	127,729	1,537,179	3,053,532	89.8	347,785	230,230	89,689	42,195
	6 mos.	1,815	18,974,622	1,618,077	22,200,822	4,089,482	3,735,217	719,017	9,657,301	19,373,263	87.3	2,827,559	1,633,028	731,605	501,483
Central of New Jersey	June	410	2,909,552	493,471	3,647,007	483,781	633,366	55,950	1,872,388	3,210,074	88.0	436,933	407,260	—316,867	—249,144
	6 mos.	410	17,030,216	2,771,323	21,272,023	2,836,287	3,706,219	334,828	11,198,585	19,066,181	89.6	2,205,842	2,383,767	—2,322,269	—2,268,923
Central of Pennsylvania	June	210	1,675,708	5,987	1,720,573	191,056	337,831	26,793	550,206	1,145,544	66.6	575,029	91,532	792,565	854,401
	6 mos.	210	9,168,492	39,452	9,443,150	1,008,971	2,277,990	152,020	3,023,405	6,705,979	71.0	2,737,171	454,599	4,049,512	4,657,397
Central of Vermont	June	422	950,000	42,000	1,061,000	207,344	152,939	16,198	400,286	812,819	76.6	248,181	45,127	129,171	6,515
	6 mos.	422	5,011,000	297,000	5,671,000	998,297	959,649	96,414	2,344,133	4,637,313	81.8	1,033,687	272,071	421,298	168,451
Chesapeake & Ohio	June	5,116	28,599,119	870,814	30,974,740	4,083,205	6,562,083	585,519	10,050,604	22,505,013	72.7	8,469,727	4,382,781	4,089,598	4,946,605
	6 mos.	5,116	162,923,452	4,420,737	174,746,539	23,314,165	35,033,041	3,363,650	59,219,729	127,863,837	73.2	46,882,702	27,339,209	21,602,568	20,520,417
Chicago & Eastern Illinois	June	886	2,094,442	334,017	2,655,029	435,677	446,761	112,332	1,018,152	2,169,527	81.7	485,502	197,100	219,266	159,876
	6 mos.	886	13,224,318	1,652,408	16,358,390	2,228,726	2,539,121	661,770	6,227,008	12,561,350	76.8	3,797,040	1,529,700	1,591,842	1,240,956
Chicago & Illinois Midland	June	130	774,572	179	785,515	123,633	163,216	25,859	215,428	566,979	72.2	218,536	114,063	108,060	353,459
	6 mos.	130	4,680,904	1,225	4,765,462	621,355	979,123	165,873	1,295,175	3,290,944	69.1	1,474,518	755,444	685,930	1,149,777
Chicago & North Western	June	7,913	13,194,556	2,253,596	17,054,208	2,984,594	3,313,685	363,382	7,770,662	15,272,159	89.6	1,782,049	1,087,888	482,726	584,548
	6 mos.	7,918	76,492,205	10,579,545	96,994,759	15,369,091	19,001,103	1,992,442	46,650,717	87,811,040	90.5	9,183,719	6,343,425	608,465	—1,307,373
Chicago, Burlington & Quincy	June	8,822	15,904,951	1,877,558	19,851,179	5,078,007	3,459,055	478,029	7,556,159	16,368,104	82.5	3,483,075	2,795,741	262,540	1,836,832
	6 mos.	8,822	107,034,645	8,647,583	127,122,159	18,080,717	19,282,064	2,703,363	46,152,065	90,706,748	71.4	36,415,411	19,412,786	13,700,002	10,937,280
Chicago Great Western	June	1,474	2,524,210	28,243	2,700,487	420,815	402,686	100,553	893,499	1,918,764	71.1	781,723	264,589	278,203	173,918
	6 mos.	1,474	15,923,087	169,625	17,051,421	2,702,684	2,456,672	604,381	5,695,683	11,960,389	70.1	5,091,032	1,617,694	1,645,468	1,616,973
Chicago, Indianapolis & Louisville	June	541	1,465,185	79,472	1,659,415	311,789	290,477	86,613	617,174	1,397,892	84.2	261,523	104,667	87,743	136,574
	6 mos.	541	9,352,924	483,789	10,471,719	1,824,770	1,698,444	525,109	3,732,380	8,376,472	80.0	2,095,247	765,166	708,895	748,502
Chicago, Milwaukee, St. Paul & Pacific	June	10,671	17,388,265	1,855,227	21,393,012	3,989,375	4,516,655	502,819	9,084,081	19,158,958	89.6	2,234,054	1,203,000	511,464	2,079,535
	6 mos.	10,671	104,876,497	8,910,824	126,359,236	17,737,170	26,437,809	2,737,692	55,985,656	109,023,977	86.3	17,335,259	9,454,000	4,423,293	3,764,384
Chicago, Rock Island & Pacific	J9ne	7,925	13,157,651	1,767,977	16,285,583	2,666,711	2,452,082	477,479	6,268,159	12,697,841	78.0	3,587,742	1,450,006	1,298,530	1,073,871
	6 mos.	7,925	81,646,135	10,120,987	99,916,261	12,535,953	15,698,506	2,840,574	39,156,368	75,085,408	75.1	24,830,853	10,980,500	8,584,600	7,773,630
Chicago, St. Paul, Minn. & Omaha	June	1,617	2,313,377	210,575	2,738,299	490,681	430,768	64,782	1,471,653	2,584,514	94.4	153,785	184,186	—140,836	40,153
	6 mos.	1,617	13,372,744	1,082,488	15,701,422	2,600,198	2,671,526	378,410	8,895,251	15,306,574	97.5	394,848	1,094,728	—1,720,700	—572,523
Clinchfield	June	317	1,845,576	1,701	1,859,187	209,650	304,539	40,094	409,544	995,730	53.6	863,457	191,046	825,009	647,488
	6 mos.	317	11,970,992	7,704	12,041,500	1,623,343	1,930,290	235,180	2,658,204	6,643,236	55.2	5,398,264	1,140,370	5,089,681	3,629,621

(Table continued on next left-hand page)

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1951	1950
Colorado & Southern	June	739	1,114,653	79,070	1,289,845	194,390	259,038	27,204	482,763	1,013,879	78.6	275,966	240,496	56,278	73,817
	6 mos.	739	6,388,404	485,994	7,452,470	887,178	1,226,367	160,790	2,876,382	5,481,961	73.6	1,970,509	1,200,316	577,183	405,915
Ft. Worth & Denver City	June	804	1,164,919	155,769	1,453,575	179,303	272,762	49,596	631,194	1,220,645	84.0	232,930	85,724	50,608	243,404
	6 mos.	804	8,188,579	916,985	9,969,499	1,460,059	1,472,191	310,792	3,843,455	7,636,587	76.6	2,332,912	785,015	851,435	1,386,842
Colorado & Wyoming	June	41	170,265	.....	282,798	127,210	39,090	1,209	121,406	300,716	106.3	—17,918	Cr. 17,003	—4,211	32,549
	6 mos.	41	904,198	.....	1,630,330	408,441	174,557	7,258	719,710	1,380,211	84.6	250,119	104,220	135,478	151,981
Columbus & Greenville	June	168	135,811	—113	140,944	45,024	30,948	4,440	53,478	151,947	107.8	—11,003	10,202	—15,603	2,570
	6 mos.	168	1,016,737	—323	1,055,334	256,170	180,129	21,923	318,371	882,984	83.7	172,350	130,080	69,743	47,405
Delaware & Hudson	June	793	4,396,460	138,193	4,675,148	733,419	1,046,486	89,213	1,805,223	3,867,994	82.7	807,154	482,694	378,346	242,472
	6 mos.	793	27,455,893	840,711	29,097,725	3,751,242	6,030,050	474,232	11,071,493	22,518,779	77.4	6,578,946	3,770,371	3,061,906	2,254,392
Delaware, Lackawanna & Western	June	965	6,185,888	807,841	7,604,238	946,245	1,465,323	175,722	3,364,099	6,211,977	81.7	1,392,261	791,645	612,410	817,715
	6 mos.	966	35,634,323	4,755,859	43,904,876	4,835,258	8,415,664	992,961	20,088,252	35,883,181	81.7	8,021,695	4,821,951	3,143,763	3,428,413
Denver & Rio Grande Western	June	2,334	5,538,553	314,386	6,103,292	1,151,245	1,051,278	173,960	1,929,963	4,586,024	75.1	1,517,268	766,223	757,563	468,999
	6 mos.	2,343	32,611,211	1,698,874	35,595,517	4,630,865	6,482,286	989,625	11,653,851	25,389,835	71.3	10,205,682	5,306,085	4,960,805	2,986,081
Detroit & Mackinac	June	232	235,911	—1	247,097	40,000	18,118	3,031	38,441	107,138	43.4	139,959	74,696	55,458	65,793
	6 mos.	232	1,167,878	936	1,218,384	240,000	122,479	18,922	216,316	648,591	53.2	569,793	322,779	213,204	225,741
Detroit & Toledo Shore Line	June	50	572,917	.....	576,824	84,495	61,523	13,698	196,294	368,088	63.8	208,736	73,771	56,902	71,035
	6 mos.	50	3,902,644	.....	3,923,609	438,817	346,833	84,257	1,269,334	2,215,154	56.5	1,708,455	684,206	440,516	611,727
Detroit, Toledo & Ironton	June	464	1,375,137	437	1,432,292	238,083	263,899	26,321	429,206	1,005,839	70.2	426,453	200,676	193,906	318,086
	6 mos.	464	9,327,345	2,358	9,747,999	1,246,161	1,505,371	164,835	2,617,663	5,816,242	59.7	3,931,757	2,007,880	1,671,732	1,977,698
Duluth, Missabe & Iron Range	June	566	6,554,432	1,813	7,558,724	662,076	696,102	9,278	2,068,024	3,546,934	46.9	4,011,790	2,533,944	1,390,630	3,040,391
	6 mos.	565	18,384,603	8,138	21,046,566	3,727,144	4,145,169	52,051	7,688,035	16,121,336	76.6	4,925,230	3,664,677	1,511,127	479,518
Duluth, South Shore & Atlantic	June	539	683,632	7,916	732,327	175,207	126,203	24,425	276,894	622,322	85.0	110,005	29,578	39,113	162,196
	6 mos.	539	3,874,464	42,467	4,091,721	708,365	702,959	131,612	1,640,893	3,291,578	80.4	800,143	160,250	419,277	307,063
Duluth, Winnipeg & Pacific	June	175	398,000	1,800	404,600	79,784	61,818	4,754	171,222	324,053	80.1	80,547	32,289	18,927	70,812
	6 mos.	175	2,665,000	5,700	2,704,800	413,137	379,841	27,474	1,129,321	1,989,626	73.6	715,174	203,812	204,629	34,619
Elgin, Joliet & Eastern	June	238	3,682,790	6	4,775,658	385,828	627,612	31,697	1,614,120	2,811,886	58.9	1,963,772	1,009,720	501,651	902,518
	6 mos.	238	21,420,434	43	26,964,943	2,453,998	3,974,616	186,802	9,620,985	17,120,854	63.5	9,844,089	4,493,116	2,086,659	4,639,134
Erie	June	2,245	13,170,686	650,443	14,970,490	2,198,758	2,515,490	337,243	5,990,999	11,709,243	78.2	3,261,247	1,628,379	1,271,651	1,527,515
	6 mos.	2,245	78,894,949	3,495,009	88,334,687	11,024,863	14,063,469	2,070,446	36,258,401	67,451,692	76.4	20,882,995	9,982,829	8,248,314	8,423,750
Florida East Coast	June	571	1,348,962	363,672	1,868,978	329,047	376,792	68,849	856,571	1,773,444	94.9	95,534	Cr. 116,101	49,955	—25,219
	6 mos.	571	11,762,041	3,976,959	17,225,913	2,041,016	2,658,536	417,091	6,307,162	12,527,024	72.7	4,698,889	1,172,117	2,438,569	2,151,698
Georgia Railroad	June	323	643,230	39,278	731,860	124,074	121,614	31,058	313,621	627,089	85.7	104,771	39,849	68,518	104,827
	6 mos.	323	4,149,629	359,674	4,807,146	735,165	736,651	185,037	1,894,371	3,767,961	78.4	1,039,185	228,176	871,093	581,880
Georgia & Florida	June	359	277,678	28	283,272	83,371	33,056	20,277	85,869	236,324	83.4	46,948	16,388	7,370	781
	6 mos.	359	1,688,921	97	1,724,379	500,857	196,491	109,224	511,416	1,394,664	80.9	329,715	98,022	104,704	—138,998
Grand Trunk Western	June	952	4,173,000	220,000	4,763,000	858,249	872,405	73,792	2,090,425	4,064,974	85.3	698,026	314,381	245,492	487,548
	6 mos.	966	26,160,000	1,182,000	29,592,000	4,090,671	5,385,006	435,557	12,492,132	23,386,265	79.0	6,205,735	1,727,005	3,147,508	3,445,774
Canadian Natl. Lines in New Engl.	June	172	183,000	10,000	225,000	54,859	45,381	2,677	124,739	247,119	109.8	—22,119	22,746	—83,863	—113,774
	6 mos.	172	1,133,000	37,100	1,403,000	318,549	283,546	16,251	797,961	1,519,118	108.3	—116,118	136,476	—505,567	—664,460
Great Northern	June	8,316	18,664,607	1,542,406	21,937,749	4,535,445	3,423,221	451,051	7,196,407	16,435,464	74.9	5,502,285	3,917,343	1,114,724	2,949,018
	6 mos.	8,316	99,220,343	6,360,324	113,581,497	21,318,900	20,628,061	2,251,123	41,989,484	90,794,754	79.9	22,786,743	14,664,594	6,789,308	—1,980,376
Green Bay & Western	June	224	308,730	.....	315,776	111,297	44,338	21,275	89,405	281,303	89.1	34,473	20,743	9,590	41,356
	6 mos.	224	2,047,207	.....	2,082,706	522,369	221,690	125,672	513,259	1,474,331	70.8	608,375	293,487	276,378	261,621
Gulf, Mobile & Ohio	June	2,898	6,054,505	467,663	6,995,641	1,186,700	1,411,761	254,241	2,112,039	5,288,961	75.6	1,706,680	774,431	618,780	598,955
	6 mos.	2,898	37,643,087	2,533,302	42,984,727	6,984,791	8,431,420	1,514,883	13,160,252	32,128,840	74.7	10,855,887	4,913,898	3,974,569	3,234,468
Illinois Terminal	June	462	888,847	82,201	1,112,825	149,141	158,097	39,002	445,597	839,101	75.4	273,724	125,811	112,766	128,603
	6 mos.	462	4,779,731	486,131	5,946,320	864,928	894,568	226,233	2,432,814	4,711,049	79.2	1,235,271	627,310	485,337	488,148
Illinois Central	June	6,539	18,661,610	2,000,087	22,562,238	4,175,815	4,148,244	501,375	8,672,799	18,523,011	82.1	4,039,227	2,323,557	1,315,042	1,947,434
	6 mos.	6,539	118,377,449	11,151,792	142,538,555	23,254,852	25,605,567	3,013,151	53,963,788	112,030,371	78.6	30,508,184	13,097,288	14,524,651	12,102,260
Kansas City Southern	June	891	3,218,732	162,276	3,665,353	342,098	450,853	79,639	1,210,740	2,204,454	60.1	1,460,899	699,000	576,153	572,117
	6 mos.	891	19,845,510	836,129	22,448,453	2,254,280	2,761,181	481,162	6,637,135	12,816,433	57.1	9,632,000	4,606,000	3,815,639	3,956,344
Kansas, Oklahoma & Gulf	June	327	488,747	635	493,075	80,806	35,433	20,288	153,566	312,029	63.3	181,046	80,172	69,751	68,068
	6 mos.	327	3,308,404	3,562	3,339,552	338,832	216,021	115,712	744,971	1,543,406	46.2	1,796,146	842,373	731,465	444,606
Lake Superior & Ishpeming	June	156	426,796	41	515,642	70,698	42,807	2,000	128,991	255,096	49.5	260,546	154,550	111,134	274,493
	6 mos.	156	1,407,689	145	1,669,979	304,959	300,222	11,812	521,159	1,196,121	71.6	473,858	382,708	172,432	48,878
Lehigh & Hudson River	June	96	262,229	.....	262,803	42,366	24,968	11,190	82,373	171,055	65.1	91,748	52,880	20,187	24,965
	6 mos.	96	1,634,396	.....	1,656,839	240,315	149,135	64,881	490,863	1,006,612	60.8	650,227	333,234	228,532	109,364
Lehigh & New England	June	188	815,835	.....	822,960	104,612	116,095	11,645	210,997	474,745	57.7	348,215	199,324	191,786	228,862
	6 mos.	190	4,152,379	.....	4,195,923	618,053	686,962	70,486	1,119,590	2,699,132	64.3	1,496,791	875,408	853,182	895,446
Lehigh Valley	June	1,223	6,005,110	339,579	6,601,369	1,105,577	1,340,596	139,101	2,540,222	5,372,218	81.4	1,229,151	613,875	553,882	620,568
	6 mos.	1,227	34,820,438	1,797,322	38,205,351	5,116,911	8,067,889	827,633	15,306,066	30,771,323	80.5	7,434,028	3,574,571	3,433,599	3,179,590
Long Island	June	365	1,268,712	3,199,984	4,913,923	608,546	881,243	25,264	2,377,917	4,058,700	82.6	855,223	496,761	83,950	142,512
	6 mos.	365	7,358,018	16,577,257	25,489,645	3,667,903	5,131,354	84,278	14,056,911	23,861,579	93.6	1,628,066	2,673,480	—2,689,959	—2,062,265

(Table continued on next left-hand page)

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1951	Net railway operating income 1950
Louisiana & Arkansas	June	756	1,801,800	59,400	1,935,723	389,313	225,920	65,831	570,293	1,326,819	68.5	608,904	314,588	185,725	341,592
	6 mos.	756	10,883,901	369,701	11,676,752	2,271,646	1,349,044	395,025	3,240,215	7,690,262	65.9	3,986,490	1,958,612	1,277,022	1,845,131
Louisville & Nashville	June	4,778	15,658,559	1,275,344	17,928,967	2,826,494	4,128,661	333,331	7,001,400	14,897,944	83.1	3,031,023	2,292,155	1,248,880	1,776,219
	6 mos.	4,778	96,537,944	7,152,609	110,028,869	15,778,604	23,399,597	1,926,989	42,389,658	87,378,690	79.4	22,650,179	16,118,014	9,643,811	9,320,297
Maine Central	June	981	1,801,908	165,742	2,110,323	439,850	394,686	21,696	739,853	1,676,118	79.4	434,205	218,576	196,283	151,073
	6 mos.	981	11,757,811	717,287	13,259,419	2,369,317	2,297,710	122,898	4,514,787	9,746,276	73.5	3,513,143	1,782,744	1,438,410	1,029,705
Midland Valley	June	334	157,318	5	160,542	65,608	19,249	4,130	66,795	162,556	101.3	—2,014	18,258	—33,766	4,114
	6 mos.	334	1,023,394	50	1,040,039	270,679	98,531	25,507	351,327	789,620	75.9	250,419	125,215	56,950	63,148
Minneapolis & St. Louis	June	1,406	1,547,066	7,796	1,615,409	445,272	256,126	118,747	557,872	1,483,816	91.9	131,593	101,481	19,080	176,550
	6 mos.	1,406	9,885,117	64,790	10,312,042	2,010,626	1,595,186	674,979	3,412,410	8,368,957	81.2	1,943,085	1,059,527	543,652	633,142
Minn., St. Paul & Sault Ste. Marie	June	3,224	3,119,713	137,762	3,446,095	890,548	659,532	79,275	1,303,959	3,049,513	88.5	396,582	233,524	122,917	202,833
	6 mos.	3,224	17,126,871	451,188	18,521,484	3,933,834	3,936,721	436,135	7,880,907	16,896,687	91.2	1,624,797	1,313,240	180,080	—1,124,027
Mississippi Central	June	148	213,794	18	218,535	39,376	26,954	12,999	56,516	144,601	66.2	73,934	36,936	29,153	23,695
	6 mos.	148	1,282,091	—166	1,307,447	247,090	172,102	78,314	345,236	899,006	68.8	408,441	185,508	155,187	93,035
Missouri-Illinois	June	172	437,382	212	449,385	71,048	64,491	7,943	121,300	273,601	60.9	175,784	120,381	63,334	71,203
	6 mos.	172	2,565,865	1,094	2,610,966	366,093	377,685	47,572	685,402	1,521,980	58.3	1,088,986	729,258	407,123	397,646
Missouri-Kansas-Texas Lines	June	3,242	4,994,758	372,532	5,875,527	987,633	924,691	255,304	2,357,689	4,834,881	82.3	1,040,646	493,688	333,460	744,582
	6 mos.	3,243	32,804,551	2,708,575	38,820,079	5,519,746	5,686,596	1,543,486	14,767,825	29,370,226	75.7	9,449,853	4,480,551	3,329,740	3,431,158
Missouri Pacific	June	6,960	15,454,753	1,131,060	18,218,428	3,582,259	3,788,720	459,173	7,346,791	15,803,154	86.7	2,415,274	866,083	909,254	2,015,168
	6 mos.	6,960	98,160,988	5,962,279	114,228,020	19,232,154	22,517,668	2,642,382	44,374,272	92,515,309	81.0	21,712,711	8,671,344	10,164,808	10,303,745
Gulf Coast Lines	June	1,727	3,202,892	120,786	3,502,887	734,747	543,437	86,953	1,173,828	2,694,432	76.92	808,455	290,321	324,827	246,877
	6 mos.	1,727	20,109,545	659,510	21,908,835	4,507,080	3,407,134	505,330	7,206,821	16,505,343	75.34	5,403,492	1,961,634	2,203,296	2,934,132
International-Great Northern	June	1,104	2,625,463	251,829	3,136,097	616,452	539,122	55,759	1,228,105	2,566,724	81.8	569,373	164,645	262,387	140,677
	6 mos.	1,104	15,845,333	1,363,301	18,750,902	3,965,512	3,198,645	324,347	7,375,740	15,663,085	83.5	3,087,817	856,728	1,342,600	1,510,089
Monongahela	June	178	851,470	.....	856,614	103,123	85,973	1,345	289,071	486,218	56.8	370,396	55,609	160,706	147,088
	6 mos.	178	4,482,640	29	4,507,129	530,781	518,316	7,032	1,559,498	2,664,258	59.1	1,842,871	321,891	634,783	103,282
Montour	June	51	266,536	.....	267,039	36,803	99,759	938	105,987	253,375	94.8	13,664	40,820	34,467	75,877
	6 mos.	51	1,306,021	.....	1,309,233	138,133	527,001	5,327	539,620	1,267,027	96.8	42,206	227,909	179,146	264,295
Nashville, Chatt. & St. Louis	June	1,049	2,569,872	188,057	3,015,246	657,116	490,142	114,340	1,125,637	2,522,798	83.7	492,448	283,729	258,918	316,179
	6 mos.	1,049	16,337,267	1,063,697	18,971,598	3,301,471	2,788,231	680,829	6,811,026	14,319,957	75.5	4,651,641	2,536,424	2,211,840	1,887,592
New York Central	June	10,727	47,671,964	11,493,987	66,631,718	8,377,091	13,233,273	1,078,666	29,908,328	55,739,388	83.7	10,892,330	4,921,542	4,302,460	5,597,181
	6 mos.	10,727	294,412,505	57,590,994	394,618,159	52,997,996	82,527,825	6,244,656	185,884,520	346,202,996	87.7	48,415,163	29,663,347	8,062,730	6,086,811
Pittsburgh & Lake Erie	June	221	4,145,458	80,975	4,405,968	514,056	1,432,777	71,627	1,447,145	3,682,035	83.6	723,933	651,840	652,848	1,076,911
	6 mos.	221	23,069,559	483,028	24,698,248	3,038,710	7,106,105	438,105	8,717,970	20,555,594	83.2	4,142,654	4,409,209	4,208,502	3,858,226
New York, Chicago & St. Louis	June	2,192	12,367,129	190,496	13,025,188	1,570,639	2,374,796	312,147	4,644,504	9,371,091	71.9	3,654,097	1,756,127	1,643,480	2,021,587
	6 mos.	2,192	75,023,814	1,026,794	78,474,082	8,968,923	13,531,851	1,859,758	27,888,605	54,889,277	69.9	23,584,805	10,804,853	10,530,456	11,851,069
New York, New Haven & Hartford	June	1,794	7,596,755	4,228,590	13,093,588	2,126,172	2,162,586	208,671	5,531,850	10,658,374	81.4	2,435,214	912,000	531,409	963,640
	6 mos.	1,794	46,926,000	22,785,913	77,283,444	11,771,674	12,679,807	1,118,194	33,659,285	63,059,882	81.6	14,223,562	5,427,000	3,316,528	4,874,850
New York Connecting	June	21	249,515	.....	262,784	123,307	19,598	.....	76,847	222,632	84.7	40,152	82,294	16,690	77,507
	6 mos.	21	1,577,613	.....	1,648,099	540,630	96,466	.....	409,176	1,063,246	64.5	584,853	415,406	333,651	351,471
New York, Ontario & Western	June	542	572,853	8,315	603,492	129,241	90,933	27,911	300,215	579,504	96.0	23,988	38,511	—83,015	—23,236
	6 mos.	542	3,514,567	8,889	3,671,794	646,825	521,750	157,635	1,695,263	3,203,919	87.3	467,875	222,235	—166,141	—429,992
New York, Susquehanna & Western	June	120	408,361	34,081	459,540	55,326	50,219	7,839	193,953	330,957	72.0	128,583	43,128	51,924	50,212
	6 mos.	120	2,457,765	228,249	2,796,152	320,188	316,739	49,465	1,157,523	1,993,487	71.3	802,665	245,056	318,933	253,766
Norfolk & Western	June	2,135	15,999,994	600,422	17,319,455	2,383,332	3,734,325	296,878	4,878,509	11,905,146	68.7	5,414,309	3,685,860	2,576,814	2,709,457
	6 mos.	2,135	91,444,023	2,848,190	98,458,403	13,616,067	20,706,227	1,698,703	29,673,833	69,232,677	70.3	29,225,726	20,909,455	14,063,245	12,056,568
Norfolk Southern	June	643	934,057	14	955,086	189,104	122,016	46,513	305,719	739,868	77.5	215,218	97,834	72,156	52,691
	6 mos.	643	5,436,000	43	5,573,479	1,018,905	685,446	275,912	1,802,125	4,201,448	75.4	1,372,031	680,874	439,718	289,418
Northern Pacific	June	6,887	13,099,023	768,618	14,825,464	2,619,903	2,636,983	290,249	5,240,729	11,459,515	77.3	3,365,949	2,838,810	839,428	2,153,820
	6 mos.	6,887	70,622,183	3,628,265	79,720,071	12,805,922	16,177,153	1,663,273	31,497,512	66,027,990	82.8	13,692,081	10,457,472	5,923,187	736,977
Northwestern Pacific	June	331	999,641	6,478	1,037,412	214,315	131,083	5,355	429,887	796,090	76.7	241,322	106,054	51,472	108,688
	6 mos.	331	5,349,456	21,322	5,520,248	1,352,888	629,178	28,400	2,470,839	4,578,480	82.9	941,768	405,988	101,470	178,610
Oklahoma City-Ada-Atoka	June	132	97,853	.....	98,403	23,637	4,495	1,572	21,673	55,135	56.0	43,268	14,865	17,036	—1,092
	6 mos.	132	582,274	—66	587,775	130,049	26,160	10,459	130,356	319,448	54.3	268,327	118,114	79,284	20,669
Pennsylvania	June	10,127	68,533,849	13,158,061	89,609,910	11,390,751	21,322,440	1,303,971	36,329,657	73,450,591	82.0	16,159,319	8,093,167	6,193,602	7,515,456
	6 mos.	10,127	384,837,196	74,584,517	504,462,628	61,909,272	129,737,526	7,751,197	223,683,218	441,938,898	87.6	62,523,730	32,025,314	20,734,532	18,582,095

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Pennsylvania-Reading Seashore Lines	June	365	650,781	250,340	943,898	207,404	88,565	14,112	608,926	959,318	101.6	—15,420	92,680	—259,642	—273,117
	6 mos.	366	3,593,611	855,978	4,678,974	1,339,447	556,629	64,724	3,399,399	5,583,651	119.3	—904,677	574,329	—2,268,142	—3,073,189
Pittsburg & Shawmut	June	97	204,812	.....	205,681	44,630	55,179	3,463	55,551	168,106	81.7	37,575	17,920	26,519	30,125
	6 mos.	97	1,208,693	.....	1,216,067	172,270	329,703	20,747	326,038	900,988	74.1	315,079	70,705	248,753	261,762
Pittsburgh & West Virginia	June	132	748,181	.....	757,797	159,696	175,418	52,631	208,487	621,445	82.0	136,352	82,074	98,273	114,207
	6 mos.	132	4,304,186	.....	4,362,419	818,376	1,025,167	297,920	1,208,498	3,508,847	80.4	853,572	542,617	669,055	678,142
Reading	June	1,313	9,432,152	565,054	10,575,351	1,758,436	2,510,866	140,507	4,210,593	8,955,990	84.7	1,619,361	974,500	783,828	1,035,615
	6 mos.	1,313	56,466,839	3,448,608	63,820,373	9,098,935	14,112,080	834,563	25,833,977	51,876,331	81.3	11,944,042	6,729,961	5,536,144	5,795,548
Richmond, Fredericksburg & Potomac	June	118	1,613,289	578,782	2,406,748	288,745	265,385	20,387	739,627	1,438,507	59.8	968,241	579,438	270,999	346,448
	6 mos.	118	9,040,504	3,502,851	14,028,345	1,633,213	1,654,732	121,833	4,476,533	8,717,040	62.1	5,311,305	2,810,988	1,827,740	1,603,837
Rutland	June	397	403,828	19,940	502,138	82,205	71,456	17,692	241,153	434,789	86.6	67,404	31,991	30,866	—32,702
	6 mos.	405	2,342,349	138,198	2,918,358	516,054	500,216	93,898	1,537,642	2,779,739	95.3	138,619	197,908	—167,380	—238,765
Sacramento Northern	June	271	221,343	.....	225,521	48,119	90,647	1,891	103,584	252,266	111.9	—26,745	16,844	—68,105	14,453
	6 mos.	271	1,568,249	205	1,602,785	342,697	181,837	12,636	553,004	1,138,795	71.1	463,990	95,747	237,704	35,960
St. Louis-San Francisco	June	4,601	8,481,976	623,202	9,822,483	1,685,840	1,710,759	282,626	3,769,532	7,904,723	80.5	1,917,760	1,041,623	786,896	1,057,299
	6 mos.	4,618	51,834,284	3,825,246	59,930,643	10,022,422	10,199,646	1,644,966	22,799,361	47,423,567	79.1	12,507,076	7,196,721	5,632,366	5,298,404
St. Louis, San Francisco & Texas	June	159	362,176	11,974	398,113	54,142	35,638	19,581	157,213	277,898	69.8	120,215	39,037	26,533	43,201
	6 mos.	159	2,159,224	65,740	2,376,430	290,151	219,120	112,549	924,169	1,618,532	68.1	757,898	284,392	174,422	74,101
St. Louis Southwestern Lines	June	1,569	5,435,284	49,564	5,683,370	764,493	714,367	152,472	1,877,384	3,689,548	64.9	1,993,822	1,033,000	707,579	1,085,243
	6 mos.	1,569	33,148,500	350,670	34,700,043	4,155,874	4,160,071	913,992	10,789,128	21,093,661	60.8	13,606,382	7,424,388	4,681,652	4,680,573
Seaboard Air Line	June	4,146	10,326,043	1,115,971	12,185,164	1,854,008	2,241,598	348,926	4,272,862	9,200,640	75.5	2,984,524	1,391,466	1,458,086	1,342,202
	6 mos.	4,146	65,252,619	8,011,205	78,441,502	13,019,695	13,328,996	2,082,091	26,678,820	58,297,722	74.3	20,143,780	9,677,554	8,665,219	7,751,684
Southern	June	6,344	17,344,931	1,872,592	20,702,468	2,961,955	4,534,732	392,860	7,434,346	16,216,307	78.3	4,486,161	2,325,800	1,736,391	2,377,737
	6 mos.	6,344	110,074,685	9,769,377	128,505,915	17,854,502	24,742,461	2,370,517	45,616,497	95,739,919	74.5	32,765,996	15,789,569	13,138,259	12,745,080
Alabama Great Southern	June	316	1,380,917	130,755	1,646,931	243,871	416,587	31,427	590,249	1,346,170	81.7	300,761	258,722	47,625	100,852
	6 mos.	316	8,415,237	555,134	9,686 928	1,397,094	2,361,027	191,070	3,473,660	7,787,876	80.4	1,899,052	1,410,718	715,304	785,907
Cinn., New Orleans & Texas Pacific	June	336	3,318,856	159,705	3,662,759	464,569	805,450	69,533	1,005,946	2,473,010	67.5	1,189,749	755,168	494,913	632,775
	6 mos.	336	19,733,307	1,303,139	22,091,921	2,711,409	4,653,740	400,326	5,965,658	14,491,618	65.6	7,600,303	4,837,144	3,195,810	3,443,265
Georgia Southern & Florida	June	397	526,935	66,922	651,903	173,229	67,663	7,705	211,858	476,957	73.2	174,946	41,976	37,730	54,617
	6 mos.	397	3,377,461	527,277	4,243,019	991,638	391,870	46,985	1,333,636	2,897,518	68.3	1,345,501	382,733	311,072	312,991
New Orleans & Northeastern	June	203	923,338	78,313	1,063,876	159,940	129,739	19,018	239,487	595,394	56.0	468,482	230,135	154,634	237,103
	6 mos.	203	5,901,247	308,762	6,527,054	983,772	737,005	116,140	1,518,926	3,620,140	55.5	2,906,914	1,753,502	939,759	993,397
Southern Pacific	June	8,127	37,886,075	3,861,787	44,295,555	4,936,293	9,385,204	757,276	17,212,399	34,245,693	77.3	10,049,862	5,159,103	3,076,211	4,910,508
	6 mos.	8,128	213,529,446	20,714,109	248,357,306	28,283,730	51,248,076	4,554,371	95,362,315	190,845,209	76.8	57,512,097	31,422,547	18,925,982	15,332,413
Texas & New Orleans	June	4,292	9,012,579	888,142	10,592,087	1,838,948	1,973,032	243,271	4,298,667	8,905,357	84.1	1,686,730	774,098	476,594	890,662
	6 mos.	4,304	59,199,340	4,830,681	68,376,529	11,118,379	11,032,927	1,471,047	26,151,270	53,000,936	77.5	15,375,593	7,209,122	4,962,697	4,800,788
Spokane International	June	152	220,426	918	233,050	53,076	21,677	4,964	59,198	147,791	63.4	85,259	37,559	29,298	50,764
	6 mos.	152	1,174,599	5,664	1,253,811	240,909	125,898	28,376	337,211	886,975	70.7	366,836	124,477	158,363	193,697
Spokane, Portland & Seattle	June	931	2,703,348	117,676	2,942,946	453,741	319,518	24,467	751,798	1,643,615	55.8	1,299,331	522,305	644,308	500,181
	6 mos.	931	13,137,051	486,062	14,356,049	2,317,801	1,763,412	146,983	4,373,276	9,116,717	63.5	5,239,332	1,771,984	2,919,094	1,750,255
Tennessee Central	June	286	368,135	19,457	409,100	84,763	70,821	11,664	142,238	330,718	80.8	78,382	24,676	27,758	6,459
	6 mos.	286	2,251,319	104,222	2,489,850	520,236	419,031	66,548	862,320	1,986,416	79.8	503,434	151,196	170,945	212,778
Texas & Northern	June	8	103,189	.....	115,317	67,094	16,415	907	32,822	122,347	106.1	—7,030	2,133	—22,120	62,142
	6 mos.	8	588,040	.....	663,838	106,841	64,451	5,765	186,222	389,306	58.6	274,532	117,450	78,997	176,265
Texas & Pacific	June	1,846	5,413,771	472,261	6,308,158	867,907	1,070,443	182,521	2,103,661	4,549,974	72.1	1,758,184	721,745	738,529	730,219
	6 mos.	1,846	32,365,809	2,489,773	37,699,100	5,156,356	5,810,705	1,017,596	12,517,591	26,406,677	70.0	11,292,423	5,012,553	4,252,335	3,694,691
Texas Mexican	June	162	226,960	.....	261,731	55,700	35,397	7,697	61,570	180,082	68.8	81,649	29,066	30,205	40,867
	6 mos.	162	1,486,132	.....	1,676,160	390,917	191,903	42,383	388,527	1,124,039	67.1	552,121	213,504	208,913	311,752
Toledo, Peoria & Western	June	239	547,878	162	553,496	131,887	45,624	42,593	138,966	395,208	71.4	158,288	83,249	39,463	79,843
	6 mos.	239	3,465,162	189	3,507,004	566,742	242,432	264,379	812,278	2,086,319	59.5	1,420,685	739,999	399,296	404,257
Union Pacific	June	9,712	32,709,073	3,734,030	39,373,466	6,914,832	8,181,127	889,169	14,032,047	32,259,510	81.9	7,113,956	5,125,456	555,276	2,775,849
	6 mos.	9,717	204,428,999	17,197,713	237,968,865	33,784,203	47,749,975	5,395,984	85,193,230	184,417,989	77.5	53,550,876	35,557,002	10,284,794	10,439,338
Utah	June	110	86,161	.....	86,225	16,872	45,520	820	36,974	107,652	124.9	—21,427	8,981	—12,632	—14,499
	6 mos.	110	488,617	.....	489,865	101,309	288,857	4,763	262,306	700,978	143.1	—211,113	63,581	—207,804	—150,983
Virginian	June	643	3,577,904	2,675	3,705,247	488,709	846,921	42,461	813,804	2,276,559	61.4	1,428,688	938,000	688,877	869,266
	6 mos.	643	21,425,849	13,936	22,205,306	2,521,851	4,731,072	249,290	4,866,262	12,885,214	58.0	9,320,092	6,102,500	4,343,185	3,804,003
Wabash	June	2,393	7,584,120	461,268	8,691,380	1,338,217	1,233,898	278,426	3,625,664	6,833,688	78.6	1,857,692	892,894	568,246	775,542
	6 mos.	2,393	49,235,731	2,522,109	55,665,422	7,220,332	7,286,222	1,633,549	22,690,430	40,907,337	73.5	14,758,085	6,766,117	4,934,846	4,289,791
Ann Arbor	June	294	732,352	.....	752,037	98,620	103,493	25,307	310,192	558,808	74.3	193,229	108,280	79,212	111,422
	6 mos.	294	4,531,369	.....	4,485,428	506,879	644,353	149,025	1,900,099	3,309,931	72.2	1,274,497	650,830	495,704	641,875
Western Maryland	June	837	3,766,346	12,430	3,943,909	537,008	789,348	80,468	1,234,845	2,792,980	70.8	1,150,929	690,000	687,943	709,856
	6 mos.	837	23,010,985	50,398	24,152,356	3,270,985	4,727,675	471,736	7,564,665	16,961,860	70.2	7,190,496	4,273,000	4,206,420	3,650,248
Western Pacific	June	1,193	3,957,835	320,938	4,389,751	632,174	614,318	159,585	1,246,809	2,869,165	65.4	1,520,586	752,747	705,872	385,906
	6 mos.	1,193	24,822,387	1,501,098	26,873,851	3,642,235	3,868,997	1,008,472	7,546,683	17,618,302	65.6	9,255,549	4,921,000	3,900,687	2,643,771
Wisconsin Central	June	.....	.....	.....	.....										
	6 mos.	.....	.....	.....	.....										

Occupants of *Empire Builder* bedrooms enjoy complete privacy and all the comforts of home.

Spacious compartments reveal eye-appealing color schemes in upholstery and carpeting.

A Great Day for the Great Northern

GREAT NORTHERN RAILWAY

Day-Nite coaches have sleep-inviting adjustable seats and footrests for budget-minded travelers.

Open sections, too, are planned with every consideration for the discriminating passenger.

Roomettes for single occupancy pack *Empire Builder* luxury into an ingenious minimum of space.

In this *Western Star* observation-lounge car, Pullman-Standard artistry is also evident.

JUNE 3, 1951 . . . that was Inauguration Day for the Mid-Century *Empire Builder* . . . and for its companion train, the *Western Star*.

And that's making progress *fast!* There was a new *Empire Builder* only four years ago . . . *five* complete new trains, all built by Pullman-Standard . . . the *first* streamliners of their class delivered by any carbuilder after World War II. And now come five more, *again* all new and the finest ever.

All the sleeping cars for the Mid-Century *Empire Builder* are Pullman-Standard masterworks. Compartments, bedrooms, duplex roomettes, roomettes, and open-section accommodations speak the last word in travel luxury. The Day-Nite coaches . . . *a Pullman-Standard innovation, introduced by Great Northern* . . . are comfort marvels too.

From Pullman-Standard shops, likewise, came most of the new passenger cars for the *Western Star* fleet of six streamliners—supplementing former *Empire Builder* equipment and making the *Oriental Limited's* successor another of America's outstanding trains.

It's no wonder that Pullman-Standard takes *special* pride in saluting the Great Northern as a constant contributor to transportation progress!

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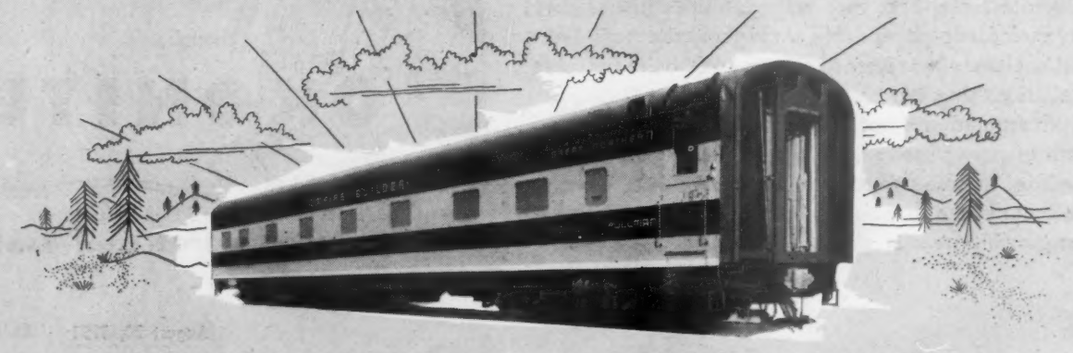

One of 32 ultra-modern sleeping cars built by Pullman-Standard for the *Empire Builder*.

OKONITE CABLES...

are used where unfailing transmission of ELECTRICAL POWER is VITAL

Wherever unfailing delivery of electrical power is vital, that's where Okonite cables are found:

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Okonite cables bear such responsibilities just as they carry their loads—dependably, throughout the years. Electrical engineers have learned to turn to Okonite for cable installations they can trust.

Such reputation is not built overnight, because the real worth of power cables is judged by years upon years of unfailing, trouble-free service. For nearly three quarters of a century, the sound reputation of Okonite cables has been growing steadily stronger and stronger as they have multiplied proof of their performance. That's because nothing less than the best—in engineering, in materials and in manufacturing processes—is ever associated with Okonite products. The Okonite Company, Passaic, N. J.

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A TIMELY WARNING ON THE "UNION SHOP" FROM D. R. RICHBERG

Railroad management will be recreant to its duty, not alone to railroad owners and patrons, but especially to railroad employees—and to the cause of human freedom—if it concedes the "union shop" and check-off to the railway unions without first exhausting all of its powers of resistance. Such is the firm conviction of this paper—which is still more strongly fortified by a superbly reasoned essay entitled "Free Men vs. the Union Closed Shop," by Donald R. Richberg, the distinguished authority on labor relations who was formerly chief counsel for a number of the railway unions. Mr. Richberg's essay appears as an 8-page supplement to the July 16 issue of the Freeman magazine. (Copies of this supplement may be secured at a price of 10 cents by addressing the Freeman at 240 Madison avenue, New York 16.)

A Duty to Read

In view of Mr. Richberg's profound learning and unmatched experience in this sector of jurisprudence, it would appear to be the bounden duty of every conscientious railroad officer with a voice in his company's labor relations policy to read, at least, what he has to say on this subject—before signing a "union shop" agreement which could very easily bring about the virtual enslavement of railroad employees.

There need be no question of the honest motives of the railway unionists or their leaders in demanding compulsory unionism—primarily, that is, their determination to force the "no-bills" to pay their share of the heavy expense of "benefits" now enjoyed free of charge. But sometimes a remedy is worse than the disease it cures. A cold in the head can be terminated by a large dose of arsenic, but most sufferers from colds would rather endure the sniffles. Similarly, rather than take the "union shop" cure most railway unionists would probably prefer to worry along with the irritating "no-bills"—if they had any idea of the harm the "union shop" is going to do them. What this danger is, to union men themselves, Mr. Richberg makes sufficiently clear to convince anyone of average literacy and intelligence.

America has had the "closed shop" on a small scale here and there for a long time, without the country's yet having gone to the dogs. But there is a vast difference between compulsory unionism here and there and compulsory unionism throughout all industry—which is the union leaders' manifest goal; and one which they are now not far from attaining. The controversial Taft-Hartley Act—allegedly so damaging to union power—specifically legalizes this dangerous device; and, late in 1950, the Railway Labor Act was amended to legalize compulsory union membership on the railroads.

The "closed shop" was in pre-New Deal days no great threat to individual freedom because there were always job opportunities in unorganized plants for the man who, for whatever reason, preferred not to join a union. Now, with industry almost entirely organized, there is hardly any place left for the man with a non-union preference to go, if his employer capitulates to the "union shop" demand. The "union shop" attacks the non-union man's right to earn a living in the only way he knows how, denying him the freedom to sell what may be the only thing he owns—namely, his skill at his craft. The "union shop" thus gives the union, a private organization, the privilege of undermining the citizen's right to "life, liberty and property"—which even the United States government is forbidden by the Constitution to jeopardize.

Is This What Employees Want?

The right of a worker to quit his union, without at the same time giving up his opportunity to earn a living, Mr. Richberg points out, is the only effective means the individual employee has of preventing tyrannical oppression by his union bosses. Just look at the industries where the closed shop and check-off have long been firmly established—the Mine Workers, for instance. As Mr. Richberg observes, "an American coal miner is nearly as helpless to oppose John L. Lewis as a Russian is to oppose Joseph Stalin." Is this the kind of unionism railroad employees want? And even if, because of misinformation, they think they want it, is it not still the duty of railroad officers at least to warn them what they are getting into, before signing away forever their rights as free men?

"Like all zealous, ambitious men who gain popular followings," Mr. Richberg goes on to say, "honest labor leaders undoubtedly believe in the sincerity of their purposes to advance the interests of those who follow them. But when good men develop powerful machines for good purposes they can be sure that eventually bad men will operate them for bad purposes. . . . Where great power is created for good ends, the resulting great power to do evil either must be denied to vicious or reckless users, or, if that is impractical, all uses of such power must be subject to public controls . . . ."

The foregoing quotations by no means exhaust Mr. Richberg's comprehensive and irrefutable presentation. Railroad men with an active part to play in union relations should read and re-read the essay in its entirety; and persuade intelligent unionists to read it too. It is possible, and indeed probable, that failure may await all efforts to forestall this latest manifestation of the reckless folly which invariably accompanies too much power. Nevertheless, let there be no occasion for any unionist to say, after the chains are firmly fixed upon him, that the management of his company did not warn him what his union was doing to him; or that it failed to fight to the last against this catastrophe.

THE RATE DECISION

The decision of the Interstate Commerce Commission on the railroads' application for a freight rate increase of 15 per cent, *Ex Parte No. 175,* is disappointing, but it can hardly be considered a surprise. The commission has merely followed along in its time-worn rut of denying to the railroads the means of continued existence under private financing. In times of relatively high traffic volume like the present, the railroad industry ought to be earning a high rate of return—to offset unavoidably inadequate earnings when national production and traffic volume are at low ebb. Instead, the commission has contented itself with permitting temporary increases which can, at best, hardly be expected to produce a net return of more than about 4 per cent.

As Professor Sidney L. Miller and his colleagues wrote in their recently published book, "Rates of Return, Class I Railways": "Prosperity for the railways is a condition that may be experienced briefly in time of war, but does not necessarily continue even 'for the duration'." Members of the Interstate Commerce Commission received copies of this book, but apparently none of them read it.

To top off the whole unrealistic business, the commission postponed for investigation an announced increase by the Eastern railroads in their commutation rates—this after all the lecturing the railroads have had to take from the I.C.C. and other government agencies on the unprofitability of their passenger operations.

By now it must be a certainty, even to the most wishful of thinkers, that the Interstate Commerce Commission, as long as it operates under the present law, is *never* going to permit the railroads to earn enough, on the average, to prove a competitive attraction to investment capital which is free to go into the manufacturing business or the public utilities—which industries regularly earn a much higher rate of return than the railroads do; and which have never impoverished their investors by the wholesale as railroad investors were impoverished by the bankruptcies of the Thirties. There seem to be only three alternatives open to railway management, viz.,

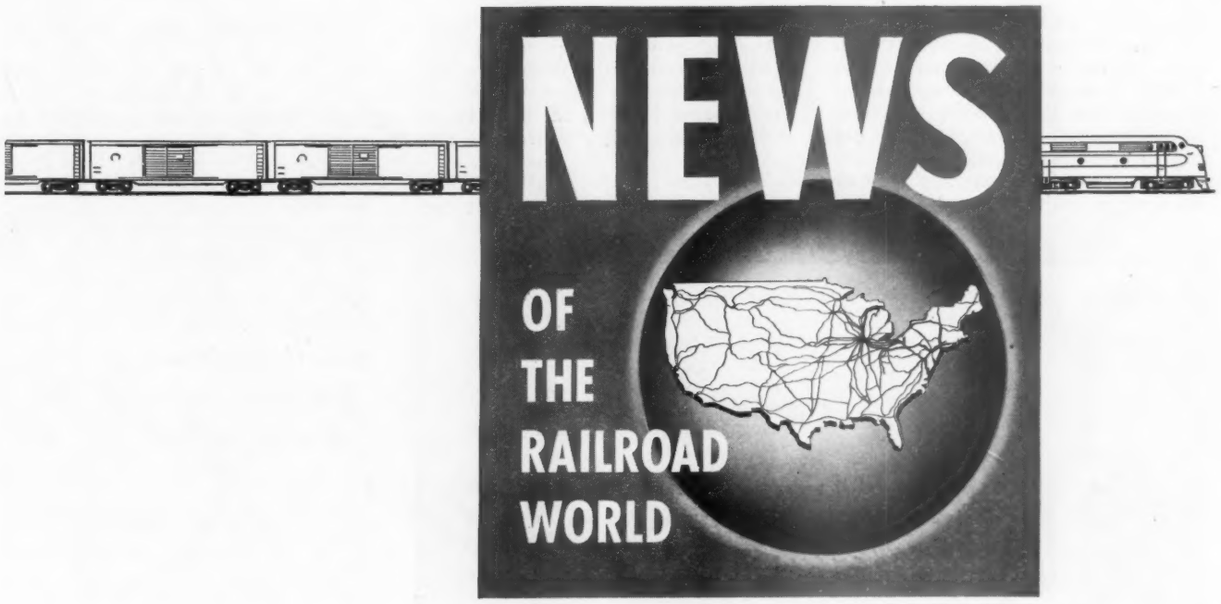
(1) To acquiesce in the continuing starvation of the industry with the prospect of low morale and failures in service which always accompany a deteriorating plant; and another "wringer" operation like that of the Thirties in the offing at the first serious decline in traffic volume;

(2) To seek financing from government sources to supply the capital requirements which mistreated private investors refuse to provide;

(3) To campaign vigorously for a change in the Interstate Commerce Act which will either (a) remove from the I.C.C. authority over rates when, over a five-year period, railroad return on investment has averaged less than that of other industry; or (b) direct the I.C.C. to make adequacy of return the primary object of railway regulation.

Our choice, of course, would fall to the third alternative—but it is not an easy one; vigorous action will be needed to lay hold of it. Alternative (1) will be chosen automatically, by default, in the absence of definite action; while alternative (2) could easily come about by initiative from the "outside." To many and perhaps most railroad managements this alternative (2) would be the least agreeable of any of the lot — but doubtless most users of the railroads and most owners of railroad securities would greatly prefer it to alternative (1). The railroads are confronted with a situation in which a bold offensive is the only course which can hold any attractions.

"Through service by normal routes has been largely restored on all railroads running through the Kansas-Missouri flood area. Behind that brief announcement is a tremendous job done by the railroads—first, in keeping traffic moving through the use of alternative routes; and then, in the quick repair of broken lines and prompt restoration of service. This magnificent rehabilitation job is being carried out by the railroads at their own expense, and without financial assistance. It includes not only the repair of tracks but the rehabilitation of terminals and shops, and of the scores of locomotives and thousands of freight cars caught in the flood waters. . . . This country can have and use no more of anything than it can haul. The great bulk of hauling is done in railroad cars. That's why the Defense Transport Administration continues to urge upon the authorities responsible for allocations of materials that there be no lessening of the flow of materials—materials essential both for railroad operation and also for the program of increasing railroad capacity as the commercial and defense needs of the nation increase."—*James K. Knudson, Defense Transport Administrator, on the Railroad Hour, August 13.*



Rail Revenues Reach New Peak in First Half Of '51—But Expenses Reach Higher Peak!

"Monthly Comment" says 133.5 per cent rise in costs "more than offset" 107.7 per cent gain in revenues since 1941—Proportion of gross converted to net more than halved

The more than $5 billion in operating revenues reported by Class I railroads for the first half of 1951 set an all time record but a new peak was also recorded by operating expenses, taxes and rentals.

This was emphasized in a discussion of railroad financial results for 1951 and previous years in the latest issue of the "Monthly Comment," regular publication of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. Other articles in the issue analyzed the recent Ex Parte No. 175 decision, operating efficiency in railway freight service, and freight forwarder returns for this year's first quarter.

Operating revenues for Class I roads in the first half of 1951 were up $812.2 million, or 19.2 per cent, above the same period last year. Net railway operating income was up 12 per cent. The interim increase in freight rates authorized last March in Ex Parte No. 175 accounts for "some part" of this year's improved picture, the I.C.C. bureau said.

Operating expenses, taxes and rentals, also on the rise, were $770.4 million above the first half of last year. Operating expenses alone for the 1951 period were the "highest ever recorded." Since 1941, according to the comment article, rises in expenses have totaled 133.5 per cent, enough to "more than offset" the 107.7 per cent rise in operating revenues.

Net income for 1951's first six months was $250 million, a 19.6 per cent increase over the $209 million reported in the same period last year. It was also $76.8 million higher than 1941 net income.

The I.C.C. bureau said this latter increase occurred despite the fact that net railway operating income was lower in 1951 than in 1941. The improvement is "largely attributable" to a decline of about $100 million in fixed charges between the two periods.

As to net railway operating income, the bureau noted that it amounted to $388 million for the first six months of this year. As mentioned above, this was an increase of 12 per cent over last year. It was 10.6 per cent below 1941.

In making this 1941 comparison, the bureau pointed out that net railway operating income, before federal income taxes, actually was higher by $27.9 million in the first half of this year than in 1941's first half. But when the income tax deduction is made, this year's figure drops below that of the earlier year.

Included in this article was a table

Freight Train Service Operating Averages—Class I Steam Railways

Item	Five months ended May 31				
	1951	1950	1944	1939	1929
Net ton-miles per mile of road per day	8,233	6,753	9,477	3,772	5,467
Car-miles per freight car-day	44.0	39.5	49.6	29.2	31.8
Freight car-miles per train-mile:					
Loaded	39.3	37.4	34.1	29.2	29.5
Empty	19.6	20.4	18.3	17.9	17.2
Total	58.9	57.8	52.4	47.1	47.7
Gross ton-miles per train-mile[1]	2,724	2,590	2,378	1,885	1,822
Net ton-miles per train-mile	1,273	1,162	1,122	747	783
Net ton-miles per freight car day	950	795	1,062	464	533
Gross ton-miles of locomotives and tenders per locomotive-mile	300	298	264	251	218
Net ton-miles per loaded car-mile	32.4	31.1	32.9	25.6	26.5
Percent loaded of freight car-miles	66.8	64.7	65.1	62.0	63.2
Train-miles per train hour	16.9	17.0	15.6	16.9	13.1
Gross ton-miles per train hour[1]	45,414	43,480	36,624	31,682	23,827
Percent unserviceable:					
Freight locomotives	19.3	20.9	12.3	31.0	16.8
Freight cars on line	4.5	7.1	2.4	12.0	6.2

[1] Excludes locomotives and tenders.

showing the percentage distribution of operating revenues as between "operating expenses, taxes and rentals," net railway operating income, and net income. In the 1951 period, the combined expenses absorbed 92.3 per cent of operating revenues, while only 82.1 per cent of the revenues were so absorbed in 1941.

According to the table, the roads converted only 7.7 per cent of their operating revenues into net railway operating income (after federal income taxes) in 1951. In the 1941 period, the comparable figure was 17.9 per cent.

This same article in the comment contained figures showing that net railway operating income in the first six months of 1951, as compared with 1950, was up 1.8 per cent in the East, 10.2 per cent in the Pocahontas region, 7.8 per cent in the South, and 23.8 per cent in the West.

Turning to its analysis of Ex Parte No. 175, the bureau again estimated the rate increases would yield an added $564 million in annual revenue, provided state authorities permit similar increases on intrastate traffic. (A story on the Ex Parte No. 175 decision begins on page 55 of this issue.)

Rates Up 67.6 Per Cent

The bureau reviewed the effect of various freight rate cases that have been before the I.C.C. since World War II. Including the "175" increases, the commission has authorized rate hikes totaling 67.6 per cent over the past six years. By territory, these increases total 73.2 per cent in the East, 67 per cent in the Pocahontas region and the South, and 62 per cent in the West.

The article on operating efficiency in railway freight service contained a table that is reproduced herewith. It compares operating averages on the basis of the first five months of 1951, 1950, 1944, 1939 and 1929.

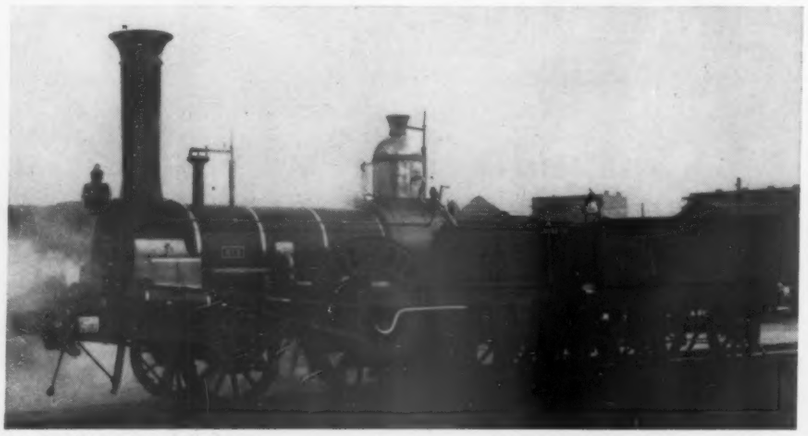
In discussing this table the bureau found that "four important indicators" of freight car utilization "were more favorable in the 1951 period than in 1950."

These four indicators are car-miles per freight-car day, net ton-miles per freight-car day, net ton-miles per loaded car-mile (average load), and per cent loaded of freight-car miles.

Significant operating averages reflecting freight train performance, such as cars per train, net tons and gross tons per train, and gross ton-miles per train-hour, were all higher in the 1951 period than in 1950, as well as higher than those in 1944, the year of peak World War II traffic, the bureau said.

Increases in traffic volume accounted for an increase in freight traffic density ("net ton-miles per mile of road per day"). In 1951 this average density" was 22 per cent above that of 1950, 118 per cent above 1939, and 51 per cent higher than in 1929. It was 13 per cent below the average of the peak 1944 war year.

All of the above-mentioned "efficiency indicators" reflect a marked improvement in operating performance in 1951 over those of the same periods in 1929 and 1939, the bureau continued. It added that in the 1951 period "net ton-miles per freight



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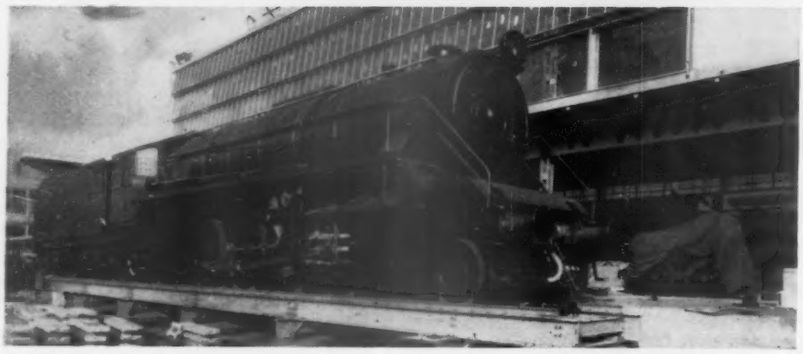


Leonard G. Taylor

British Official Photograph

VISITORS TO THE LONDON SOUTH BANK EXHIBITION at the 1951 Festival of Britain had a chance to see a century of locomotive development around the world. Featured at the exhibit were the Buddicom locomotive (top), built at Chartreux, near Rouen, France, in 1843 and loaned for festival exhibition by the French Railways; a 2-8-2 steam locomotive (middle), one of 100 built by the North British Locomotive Company of Glasgow for the Indian Government Railways; and (bottom) a 660-hp. diesel-electric locomotive, also built in Great Britain for the railways of Tasmania. The modern steam locomotive in the middle picture presents a striking contrast with its 1829 ancestor, the "Agenoria," which is shown, although covered, at the right of the picture

car day," an important measure of operating performance, was 105 and 78 per cent above the averages for the 1939 and 1929 periods, respectively, and exceeded that of 1950 by 19 per cent.

As to the first quarter returns of the freight forwarders, the bureau noted, among other things, that net income for the group was up 31.3 per cent over the same period last year. They purchased 42.3 per cent more transportation, and the increase in transportation purchased from the railroads amounted to 43.2 per cent.

Of the total transportation purchased in the 1951 period the rail proportion was 69 per cent, compared with 68.5 per cent in 1950. For the motor carriers the proportions were 16.1 and 16.3 per cent, respectively.

$369 Million Paid Out By Retirement Board

Payments by the Railroad Retirement Board during the fiscal year ended June 30 went to about 792,000 men, women and children and totaled $369 million. Both the total amount paid and the number of persons receiving payments dropped off considerably from the comparative figures for the fiscal year preceding (which were the highest on record).

The largest block of payments ($258 million) went to 283,000 retired railroad workers under the provisions of the retirement act. Other major payments were: $59 million to 201,000 members of deceased employees' families; $25 million to 189,000 unemployed workers and $27 million to 146,000 who were sick or injured. Overlapping into more than one account were some 14,000 persons who received benefits under both the retirement and unemployment insurance acts, and 13,000 who drew both unemployment insurance and sickness benefits.

In the 15 years since the beginning of the railroad social insurance program the board has paid out $2.861 billion, over half of which was paid out in the past four years.

The chief reason for the decline in over-all benefit operations, the board explained, was the sharp drop in unemployment benefit activities from the peak of 1949-50. Unemployment benefit payments were down 78 per cent and the number of beneficiaries was 63 per cent lower. The sickness program declined only slightly from the previous year while retirement and survivor benefits continued to climb (although both the net addition to the rolls and to the amount of benefits paid was smaller).

In reviewing its financial operations the board reported the sum of $2.419 billion in the retirement account as of June 30. This, the board pointed out, was not a "surplus" because benefit liabilities with respect to service already performed are far in excess of the present reserve. The balance in the unemployment insurance account (from which sickness benefits are also paid) declined $19 million to $765,824,000. The board expects that benefit payments will exceed contributions under the present rate by 0.5 per cent.

Administrative expenses constituted one and one-half cents out of each dollar spent on retirement and survivor programs and nine and one-half cents for each dollar spent on the nemployment and sickness programs.

Rousing Session Covers Northwest Car Situation

A table-pounding session on car shortages in the northwest grain states was held last week before a group of senators and congressmen in Washington, D. C.

During the meeting, the Interstate Commerce Commission was buffeted around for not issuing "some car orders" requiring railroads to return 100 per cent ownership to the northwestern roads. Senator Humphrey, Democrat of Minnesota, called the commission "derelict of its duty" for not getting out such orders.

"I don't go for this business of letting the Association of American Railroads do what it wants to before the I.C.C. acts," he declared. He also had a few words for the railroads: "Eastern railroads are running the A.A.R.—they are the 'top boys,' and they are just not going to let these roads out in the northwest have their box cars back."

President William T. Faricy of the A.A.R. jumped to the defense on that score. He declared that the association is not run for any group of roads, geographical or otherwise. He also defended the I.C.C., and said the commission "has been doing a good job."

The issue at the moment was whether the outstanding orders of the A.A.R.'s Car Service Division, requiring the return of box cars to western lines, carry enough weight to do the job. Homer C. King, deputy administrator of Defense Transport, said he thought the C.S.D. orders were adequate, and predicted the situation would be much better "in ten days."

Leonard E. Lindquist, chairman of the Minnesota Railroad and Warehouse Commission, was not so sure.

Shortages Draw Ire

"I am through showing sympathy to the railroads on this question," he announced. He vigorously denounced railroad car policies, and said as far as he was concerned, "any truck that wants to serve any place in Minnesota can have a certificate to do so."

Mr. Lindquist said railroads are not entitled to protection under "public necessity and convenience" as long as they permit "these perennial car shortages."

"The railroads recently got a rate increase from the I.C.C., but they will never get an increase out of me as a commissioner," he declared. He also said he would do "all I can" to organize this attitude among other state commissioners in the northwest.

Mr. Lindquist pounded the desk top and demanded to know, "What are all the grain cars doing in the southwest?" "They're down there to move the crops," Mr. Faricy answered.

Senator Thye, Republican of Minnesota, who presided at the meeting, brought things back to order by calling on P. H. Schuemann, vice-president of Peavey Elevators, Minneapolis. Mr. Schuemann got up and announced that a lot of the cars being furnished for the movement of grain have holes in the sides "big enough to poke a hog through."

Senator Mundt, Republican of North Dakota, observed at this point that little would be gained by "reviewing the problem." He asked what is being done to correct it.

Mr. Faricy explained that the railroads are "bending every effort" to get empties moving to the northwest. He said they are complying with the C.S.D. orders, and he promised that if the railroads can get steel to build the freight cars they have on order, "we won't be back up here next year."

The meeting took place in a Senate committee room. In addition to those already mentioned, there were a number of congressmen from the northwestern grain states on hand. Ernest D. Nelson, president of the North Dakota Public Service Commission, also attended, as did Arthur H. Gass, chairman of the Car Service Division; R. E. Clark of the C.S.D. Closed Car Section; and K. K. Stokes, chief of the Closed Car Section in the I.C.C.'s Bureau of Service.

Why Not Northwest Too?

There was considerable questioning of why the railroads provide a "bank" of grain cars to move the harvest in the southwest, but don't make similar provisions for the northwest. E. L. Peterson of the Minnesota Traffic Association, said this policy results in the northwest getting the "skimming" year after year.

Mr. Nelson, of the North Dakota commission, said this "year-after-year grain car shortage" has earned him the nickname of "Box Car Ernie." He suggested that unless the railroads improve, the I.C.C. should do something about it.

Mr. King reported that in his opinion car shortages in the northwest would not have occurred this year, if the recent Kansas flood had not disrupted car movements. He said a northwest "bank" of cars wouldn't be necessary "ordinarily," but the flood this year was a "terrific blow" to car supply everywhere. He pointed out that the

real damage there was the loss of "thousands" of car days.

The meeting turned to the matter of steel for building more cars. Senator Humphrey observed that "you didn't build enough cars before Korea, you didn't build enough cars after Korea." Mr. Faricy, however, insisted that if railroads get steel things will improve in a hurry.

The A.A.R. president told the group of a threatened cut-back in "MRO" steel supply in the months ahead. He said such a cut would be a blow to the whole program for repairing bad order cars, and many railroad shops might have to close down.

This interested Senator Thye. He said that he had been "active" in trying to get more steel for freight cars for some time, and told Mr. Faricy that if those controlling the steel allocations "won't exercise common sense, you come to us." The session closed with Senator Ecton, Republican of Montana, urging the roads to observe the C.S.D. orders and "keep the pipelines filled." Mr. Lindquist said the I.C.C. "can and should" issue mandatory orders "to get our cars moved west."

Mexican Railways Plan Major Improvements

The Export-Import Bank has announced the granting of two credits, totaling $56,000,000, for use in rehabilitating the railroads of Mexico. The National Railways of Mexico received $51,000,000, all of which will be used to purchase materials, equipment and services in the United States. The Ferrocarril Mexicano was granted the remaining $5,000,000.

A notice issued by the bank in connection with the credit grants said rehabilitation of these rail systems will include improvement and broadening of roadbeds, ballasting, laying of new rail on large sections of the lines, the addition of new machinery to shops and the improvement of shop practice, and the addition of much new motive power and rolling stock.

The National Railways of Mexico operates more than 8,000 miles of trackage, covering all of Mexico. Included in the system are many miles of narrow gage track, a portion of which will be broadened to standard gage as part of the improvement program.

Ferrocarril Mexicano is a smaller rail system, operating between Mexico City and Vera Cruz. Its total mileage is approximately 560 miles, including about 113 miles of narrow gage branch lines.

More than half the new credit to the National system will be devoted to the purchase of rail accessories and track machinery, the bank announcement said. The remainder will be used for purchasing additional locomotives, passenger coaches, shop and signaling equipment in the United States.

The credit to the Ferrocarril Mexicano will be used principally for track materials to rebuild the line between Vera Cruz and Mexico City. In addition, a small portion of the credit will be used for shop equipment and supplementary motive power to relieve the bottleneck on the mountainous portion of the line.

The credit granted the two rail systems at this time may be increased as further surveys of the needs of the railroads are completed, the bank statement said. The present credits will bear interest at 3½ per cent, and will be paid off in 20 semiannual installments, the first of which will be due June 22, 1954.

The National of Mexico, conceding that its present facilities are not adequate to provide proper transportation and freight facilities for the country, has embarked on a major program to increase its locomotive power.

According to a report released by the government-controlled railroads, locomotive power is being increased through purchases of new units from the United States and Europe. An intensive locomotive repair program is also being launched and these two factors combined are expected to increase service.

The N. of M. reports that it expects to have 191 heavy-duty diesel engines soon. At present there are an estimated 105 diesel locomotives in operation. In addition, 90 large steam locomotives are being repaired and when these are ready for service 149 outdated units will be withdrawn from active use. A large number of locomotive units, both diesel and steam, will reportedly be purchased next year to add to the total tractive power of the railroads.

The program also includes establishment of repair shops in the vicinity of Tlanepantla, where the new Mexico City rail terminal is now under construction. Large quantities of machinery and tools have already been ordered from Europe and the United States, the report added.

According to a survey issued by the Federation of Industrial Chambers of Commerce, Mexico needs an estimated 12,000 freight cars to provide adequate transportation facilities to move food and other essential items from producing to consuming centers. The report stated that the country should have at least one freight unit for each kilometer of track, which would total 26,000 cars. Actually, the country now has only about 14,000.

The report said the government has been trying to obtain 5,000 cars from the United States, but rental of these units would cost some $33,000,000 and contribute further to rising prices. The report definitely added that higher costs of living in Mexico are due in part to lack of adequate transportation facilities.

The report recommended that private enterprises collaborate with the railroads in purchase of private freight cars for moving products to consuming centers. However, the Department of Communications would have to issue new regulations to permit and stimulate this practice.

"Mexico cannot produce or consume more than what is transported," the report said. "It is therefore essential that an adequate transportation system is organized to assure a rapid transportation of produce to consuming centers contributing to a general lowering of prices."

R. E. A. Maps New Fight On Loss and Damage

With its objective a reduction of $1½ million in claims for the period August 1, 1951, to July 31, 1952, the Railway Express Agency recently announced a new campaign to reduce loss and damage to express shipments.

The initial slogan sparking the drive, "Handle the Right Way—Prevent Claims," will appear on all bulletin boards and internal correspondence, will be publicized in the Express Messenger, the company publication, and will be brought to the attention of all employees in other ways. "All express employees," the company says, "whether or not they are engaged in physical handling of express shipments, are expected to contribute their share to the effort. Everyone is urged to observe methods of handling the traffic and to submit ideas and suggestions for elimination of hazards to shipments."

Round the clock sessions of express operating executives and employees will be held, so that all will be acquainted with the program. Especially will executives try to impress on everyone how loss and damage destroys the good will of shippers toward the R.E.A. At each express office, the company reports, "studies will be made of loss and damage claims, for corrective action and to determine the type of shipments on which claims are presented, causes of claims, packing of shipments subject to claims and examples of abnormal claims."

Steel Industry Forms "Scrap Mobilization" Group

Formation of a committee of senior steel company executives to carry on an intensive nationwide campaign to increase flow of iron and steel scrap to mills and foundries has been announced by Robert W. Wolcott, chairman of the new Steel Industry Scrap Mobilization Committee.

Mr. Wolcott, who is also chairman

of the Lukens Steel Company, said W. T. Hoyt would serve as executive secretary of the committee. Mr. Hoyt was director of the Salvage Division of the War Production Board during World War II and has recently been a special consultant for the National Production Authority on scrap and salvage. Committee headquarters are at the offices of Hill and Knowlton, Inc., 350 Fifth avenue, New York.

Commenting on the seriousness of the scrap shortage, Mr. Wolcott pointed out that in 1950 the steel industry and foundries consumed 29½ million tons of purchased scrap. Original estimates for 1951 needs were 32½ million tons. "Actually, at the present rate of consumption, we will need 36 million tons," he said. "When compared with the peak World War II year when 24½ million tons were used, the enormity of today's job becomes evident.

"Inventories of scrap at mills and foundries normally should have been built up during the summer months. Instead they are currently at critically low levels, sufficient for only a few weeks operations. With winter coming on, when scrap is more difficult to find, and with our enlarged steel capacity demanding ever greater amounts of scrap, the situation is truly critical."

I.C.C. Plans "Prehearing" Session on Class Rates

Commissioner Aitchison will hold a "prehearing conference" at Salt Lake City, Utah, September 6, in connection with two class rate cases now pending before the Interstate Commerce Commission. The cases are No. 30416, Class Rates, Mountain-Pacific Territory, and No. 30660, Class Rates, Transcontinental Rail, 1950.

The purpose of the conference will be to discuss "the nature of the issues involved and the procedure to be followed in hearing such proceedings."

Passenger, Troop Trains Collide: 13 Dead

A head-on collision between a troop train carrying some 280 marines and the streamlined "Southern Belle" of the Kansas City Southern, which occurred near Simmesport, La., on August 10, has resulted in the death of 13 persons and injuries to between 50 and 60 others. Preliminary reports indicated that the accident was caused by failure of the troop train to take to a siding to permit the Kansas City-New Orleans streamliner to pass.

The collision took place about 7 a.m. on a curve in a remote swampy area which was almost inaccessible to rescue equipment until a road was cut through to the scene. Rescue work was further hampered by a lack of communications due to destruction of telephone and telegraph lines parallel to the railroad right of way.

BECAUSE "SOO LINE" IS EASIER TO SAY—and remember—than the formal "Minneapolis, St. Paul & Sault Ste. Marie Railroad Company," the road has adopted its 63-year-old nickname as official for all except legal business. To capitalize on the switch, all stationary is being changed as shown, and 12 large neon signs have been erected on company property in major on-line cities. Smaller stations and strategic company buildings elsewhere have been given new porcelain-enamel signs and 75 major highway underpasses have had the nickname applied either in paint or "scotchlite" reflective material. Neon signs will be erected in four other important on-line cities in the near future. The "Soo Line" trademark was created by the road's first general passenger agent, John G. Taylor, in 1888. It has been little modified since that time

Because the engine crews of both trains, as well as the conductor of the troop train, were among those killed, it may be difficult, or even impossible, for investigators to determine the cause of the accident. In a preliminary statement to the press, R. R. Sutter, superintendent of transportation, said both trains had an authorized speed of 55 m.p.h. at the point of collision and he had little reason to believe they were traveling much slower than that at the time of the impact. Fire from the diesel fuel of the locomotives enveloped several of the leading cars of both trains and accounted for a number of the injuries.

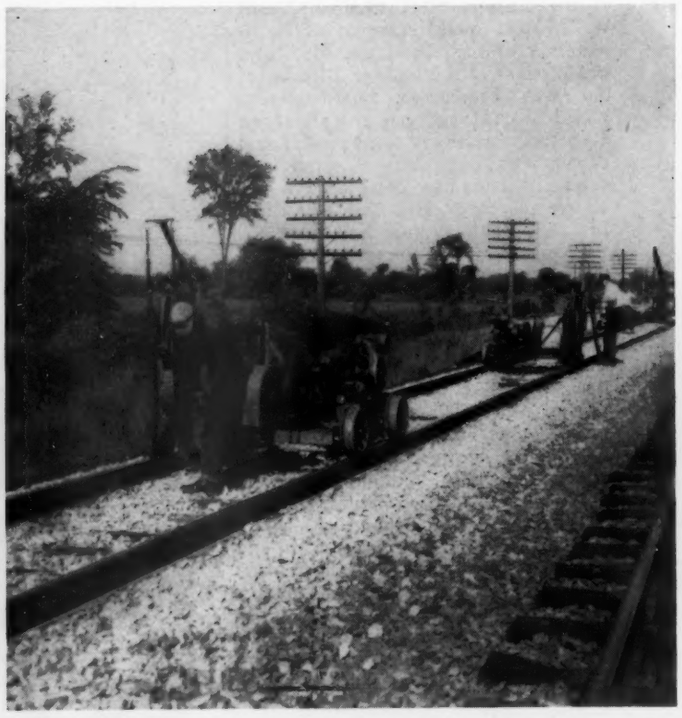
The troop train was enroute from Camp Lejeune, N. C., to San Diego, Cal., and according to reports, carried 16 cars. The scene of the accident was some 60 miles northwest of Baton Rouge, on a portion of the K.C.S. system operated by the subsidiary Louisiana & Arkansas.

Two days after the K.C.S. collision, the Atlantic Coast Line's "East Coast Champion," northbound from Miami to New York, was wrecked near Four Oaks, N. C., when nine cars in the middle of the train were derailed on a 20-foot embankment, reportedly weakened by heavy rains. No lives were lost and only nine persons were reported to have been hospitalized.

MORE NEWS ON PAGE 58

Additional general news appears on page 58 followed by regular news departments, which begin on the following pages:

Organizations	64
Equipment & Supplies	64
Construction	69
Supply Trade	69
Overseas	75
Financial	75
Railway Officers	76
Meetings & Conventions	78



Left—A section of typical track on the Lackawanna after it has been given a light out-of-face raise, tamped with a Matisa tamper and dressed. Right—The organizations used on the Lackawanna for carrying out tie-renewal and track-raising work are highly mechanized. Here two Nordberg tie pullers remove the spikes from ties that are to be renewed

How the D. L. & W. Gets Results from

Annual Programming of Maintenance Work

Favorable showing of roadway forces on the Lackawanna attributed to scheduling of work in detail on annual basis, combined with a high degree of mechanization

The Delaware, Lackawanna & Western has consistently been able to keep its maintenance-of-way ratio at a relatively low level, even in the face of the sharp increases in recent years in the hourly wages of maintenance labor. According to the officers of this road, several factors have contributed to the outstanding performance of its maintenance forces, among them being the practice of programming roadway maintenance work on an annual basis in a detailed and precise manner. Based on the money allotment for maintenance-of-way work for a given year, as determined in January, the entire roadway maintenance program is worked out down to the last detail and incorporated in a book of letter-size blueline prints, which becomes the "Bible" of everyone concerned, from the chief engineer down to the foremen in charge of the work.

The Lackawanna has been programming its roadway maintenance work on an annual basis for about 10 years, but it was only about five years ago that it began use of the more detailed methods now employed. The railroad feels that it is realizing a number of important advantages as a result of the careful and detailed manner in which its roadway maintenance work is programmed. It is convinced, for example, that when the amount of money that is to be spent over the entire year is definitely known, the work can be handled and regulated much more economically as compared with the practice of operating on a monthly basis, in which event considerable waste motion and loss of productive time may be involved in readjusting the activities of the maintenance forces every month.

Furthermore, all those concerned with carrying out

Left—The removal of old ties from the track is done rapidly and economically with this homemade tie puller. A gasoline engine drives a single-drum hoist from which a cable is reeved through a pulley at the outer end of the horizontal arm. To remove an old tie a pair of tie tongs at the end of the cable is clamped onto the tie and the power is applied to the hoist drum. Right—Another homemade machine used in the tie-renewal and track-raising operation is this ballast loader-distributor. Ballast picked up from the intertrack space by the endless conveyor is delivered to the hopper at the rear of the machine from which it is spread over the track section

the yearly program have a definite goal to shoot at and know with a practical degree of certainty what they are going to be doing at any given time. The result is that a new *esprit de corps* has been introduced among the road's supervisory forces, which reaches in many cases down into the ranks. An important factor in creating and maintaining this spirit is the knowledge that nothing short of developments of major importance will cause any significant changes to be made in the program once it has been projected. For instance, last year 98 per cent of the programmed work was completed. In 1949 the percentage was 91; in 1948 it was 88; in 1947 it was 93, and in 1946 it was 82.

Track Work Highly Mechanized

Another consideration behind the Lackawanna's policy of programming its roadway maintenance work in great detail is the fact that this permits maximum utilization of the large amount of maintenance-of-way work equipment that is owned by the railroad. In fact, the use of work equipment is a major element in this company's effort to keep maintenance expenses at a minimum while maintaining a high standard of roadway maintenance. This is shown by the fact, that whereas the Lackawanna's investment in roadway machines, including highway trucks, as of December 31, 1941, was $581,176, this figure had increased to $1,294,202 at the end of 1950.

With such great dependence being placed on machines, no effort is spared to minimize breakdowns of equipment on the job. To this end, every machine is sent to the railroad's central maintenance-of-way work-equipment repair shop at Scranton, Pa., for a complete overhauling every year. To make certain that machines will get the proper attention on the job a work-equipment repairman, provided with a specially designed and equipped highway truck, is assigned to each roadmaster's district.

The Lackawanna's maintenance-of-way ratio provides one of the best yardsticks for measuring the effectiveness of its policies relative to the programming and mechanization of maintenance work. In 1945 the ratio of maintenance-of-way and structures expenditures (less charges to depreciation and retirements) to revenues was 10.41. In spite of the substantial increases in hourly wages of maintenance-of-way labor that have occurred since, including the effect of the 40-hour week, the maintenance-of-way ratio (excluding charges to depreciation and retirements) had dropped to 9.29 in 1950. This reduction in the ratio in the face of rising costs was achieved without sacrificing maintenance standards. In 1950 the Class I railroads in the Eastern region as a whole had an M/W ratio of 11.04 (also excluding depreciation and retirements).

A brief description of the Lackawanna's track-maintenance practices in general will provide a background to an understanding of the methods used to program roadway maintenance work in detail.

The main line of this road, comprising from two to four main tracks, extends from Hoboken, N. J., on the east to Buffalo, N. Y., on the west. As of December 31, 1950, the road had a total of 2,394 miles of track to maintain. Typical heavy-duty main-line track construction consists of 132-lb. rail, six-hole headfree joint bars, double-shoulder "waffle-bottom" tie plates, 24 creosoted

After track has been raised in connection with the tie-renewal operation it is tamped with a Jackson Multiple Tamper

cross-ties per 39-ft. panel, and crushed limestone or trap-rock ballast. Tie plates on curves in main-line are lagged to the ties with one or two cut spikes depending on whether waffle-bottom tie plates are used, and with one spike on tangent track if other than waffle-bottom tie plates are used. Adequate anchorage is provided to maintain the joint gaps in the rails.

Tie-Renewal Practices

Crossties are renewed on a six-year cycle, and in connection with this work the track is raised an average of 3½ inches and is tamped with a Multiple Tamper. At this time all ties are renewed that are not expected to last six years. Those that are fit for further service are reinstalled in yard or side tracks. Either one or two years after the ties are renewed the track is given a light raise (about 1½ inches) and is tamped with a Matisa tamping machine. After another three or more years the latter operation is repeated.

A strong believer in the economy of a free-draining ballast section, the Lackawanna cleans the shoulder and intertrack ballast in its main tracks on a regular cycle. Speno equipment is used for this purpose. Where the ballast is to be cleaned in track that is on the schedule to be raised, the ballast-cleaning work is done in advance to facilitate the renewing of the ties. Ballast that is not on the schedule to be cleaned is scarified when necessary before the track is raised.

An important factor in the Lackawanna's roadway maintenance setup is the practice of using the so-called "detour" system when carrying out track-raising and tie-renewal work. In this system, which has the wholehearted cooperation of the transportation department, all traffic is detoured around the track-raising and tie-renewal operation. The detour sections are five to seven miles in length, and, where necessary, temporary crossovers are installed to make it possible to route traffic around them. After the work has been finished in a given detour section, the switchpoints, frogs and rails in the temporary crossovers are removed but the timber is left in place for future use.

Operation of Detours

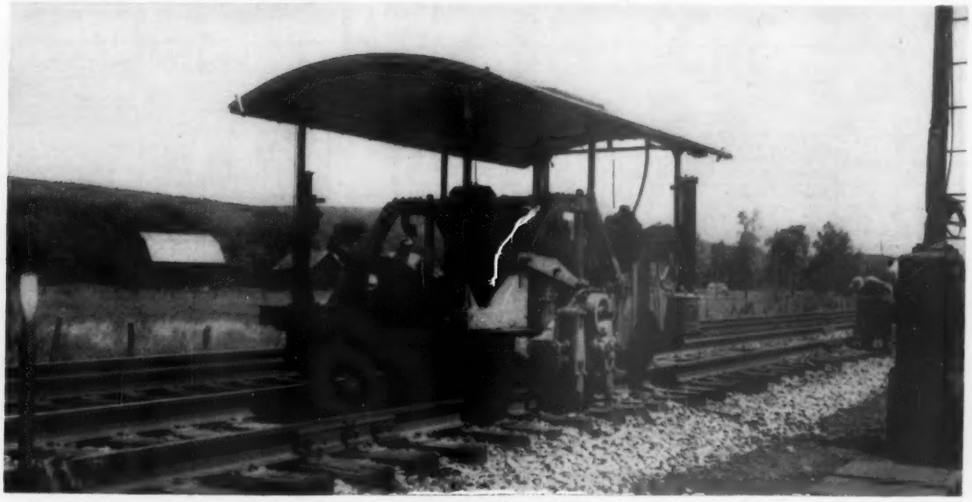
The handling of trains at detours is in charge of the transportation department. Each of them is protected by a conductor at one end and a trainman at the other, both of whom are in telephone communication with each other and with the train dispatcher. After working hours the "dead" track is restored to service until the following day. Generally speaking, the track raising and tamping work involving the use of Matisa tampers (during which no tie renewals are made) is carried out under traffic.

The Lackawanna's track-raising and tie-renewal operation involving the use of Multiple Tampers is highly mechanized. Two such organizations of equipment are employed, one of which operates generally east of Binghamton, N. Y., and the other one west of that point. As seen recently in operation, one of these gangs was using two Nordberg spike pullers to remove spikes from ties to be renewed, a Nordberg power jack, a power-driven tie puller which was devised and built on the Lackawanna, two Nordberg Cribex machines for cleaning ballast from the cribs to facilitate insertion of the new ties, two Nordberg spike hammers, and a home-made ballast loader-distributor by means of which ballast in the intertrack space is picked up and delivered to a hopper from which it is spread evenly over the track section.* The entire organization was comprised of a total of 95 men divided into five separate gangs, each under the supervision of a foreman. Also an Ingersoll-Rand Spot-Air compressor for operating cribbing forks was being used in digging out grade crossings ahead of the track-raising operation, and a Jackson 4-tool outfit was being used to tamp ties through turnouts behind it.

Direct supervision over all maintenance-of-way activities on the Lackawanna is in the hands of the engineer maintenance of way, located at Scranton, who reports to the chief engineer, whose office is at Hoboken. Maintenance work on each of the road's seven subdivisions is under supervision of a roadmaster, who reports to the engineer maintenance of way. Each division has from 5 to 14 sections which, in double-track territory, have an average length of about 15 miles of line. The work of section gangs is confined largely to spotting, policing and patrol duty, with all heavy out-of-face work being done by extra gangs. Nearly all divisions have extra gangs that work the year around, but at the beginning of the working season these gangs are expanded in size and new ones are added as necessary to take care of programmed work. The heavy out-of-face maintenance operations are usually started about April 15. Activity continues to increase until about May 15, after which it remains on about the same level until about November 15, when a tapering-off process is begun.

Under the present system of programming heavy roadway maintenance work the engineer maintenance of way, begins, in the closing months of the year, to work out

* The new ballast needed in connection with the tie raise cannot be dumped between the rails because it would interfere with the removal of the old ties and the insertion of new ones. However, after the new ties have been installed and the track raised it is necessary to have stone to tamp the ties. For this reason the ballast is unloaded initially with side dump cars, and then, instead of using hand labor to throw it into the track as needed for the tamping work, this is done mechanically by means of the specially developed ballast loader-distributor.



Either one or two years after the ties in a particular section of track have been renewed the track is given a light raise and is tamped with a Matisa tamper

a tentative or preliminary program for the following year. Early in January a meeting is held by the president and the chief engineer, to determine the money allotment for the year. On the basis of this allotment the engineer maintenance of way then adjusts his program as necessary and works out a final schedule which is usually completed about March 1.

Nothing in the way of information pertinent to carrying out the program is left out of the final schedule incorporated in the book of blue-line prints mentioned at the outset. In this book the "winter force" for the entire railroad is first summarized by divisions, giving the number of section and extra-gang foremen and assistants, the number of section and extra-gang laborers and the number of other laborers. This force is then tabulated in detail for each of the seven divisions. The winter force might be said to be the road's basic maintenance organization, which is augmented as necessary during the working season to carry out the programmed work.

The program book then gives the "summer force," first summarizing it and then giving it in detail for each of the divisions. Since the organization and personnel of the extra gangs depends at any given time on the particular work scheduled for them they are simply referred to by number in the "summer-force" tabulations, with cross references to other tabulations which give in detail the work schedule for each of the extra gangs on each division. These latter schedules outline the work of each gang for the entire season, including the date on which each project is to be undertaken and completed. In making up the work schedule of the various gangs at the beginning of the year allowance is made, based on past experience, for probable delays due to weather conditions. So accurate are the estimates in this respect that seldom do the gangs deviate from the fixed schedule more than a day or so.

Also laid out in great detail in the work program for each year are all pertinent facts regarding the various types of work to be done. The types of work thus covered include track raising and surfacing, rail renewals, the changing out of joint bars, ballast cleaning, new switch timber and crosstie allotments, stone ballast allotments, assignments of ash pit cinders and the application of bridge tie preservative.

Work schedules for the larger items of equipment are included in the program. Equipment so scheduled includes the company's three Matisa tampers, its two Jackson Multiple Tampers, a ballast scarifier, and a Nordberg Cribex, the latter machine being in addition to the Cribex machines used by the track-raising gangs. Generally speaking, each of these tabulations gives the work schedule for the particular piece of equipment for the entire working season, usually indicating for each job the track number, the location of the work by milepost reference, the dates on which the job is to be started and finished and, in the case of the Matisa and Multiple Tampers, the numbers of the extra gangs that are to be working with each piece of equipment at any given time. During a recent inspection trip, made several months after the working season had started, it was noted that all extra gangs visited were working at the locations specified for that particular day in the work schedules.

Also included in the program book are sheets giving the force setups for use with the Matisa and Multiple Tampers. These tabulations show the number of men in each unit of each gang, their duties, the equipment to be used, and the starting time. The final two pages of the book are devoted to brief general descriptions of the Lackawanna's track-work methods and standards.

The Lackawanna's maintenance program book for 1951 contains 63 pages, not including the 1-page index or the covers. Complete copies of the book are kept by the chief engineer, the assistant chief engineer and the engineer maintenance of way. Each roadmaster is given copies of those pages of the book that apply to his territory, and sheets covering the activities of the extra gangs are placed in the hands of their foremen.

The work involved in each year's roadway maintenance program, in addition to being included in the book described above, is also indicated graphically on blueprints of the road's rail charts which show, by conventions, the weight, the year rolled and the plant where rolled of all the rail on each subdivision. On blueprints of these charts the major elements of the maintenance program are indicated by lines and shading of different colors. The work thus shown indicates all programmed rail renewals and whether the rail to be applied is new or secondhand, new splices to be applied, ballast to be cleaned, and track to be tamped, indicating whether the work is to be done by Matisa Tamper, Multiple Tamper. hand forks or pneumatic guns.

An interesting aspect of the Lackawanna's maintenance

1

PROGRAM 1951

WINTER FORCE
DIVISION N°1

Effective 1-2-51 to 3-30-51 and 11-1-51 to 12-31-51 except as noted

GANG	FOREMEN	ASST FOREMEN	M or W LABORERS	OTHER DEPT LABORERS	TOTAL LABORERS	REMARKS
1	1	1	8		8	
34	1	1	8		8	
39	1		4		4	
Total Sections	11	2	60	4	64	
Garden	1		4		4	
1X1 Dover	1		11		11	
1X2 Summit	1		11		11	Add 1 Lab 11-1 to 11-22
1X3 Secaucus	1	1	11		11	Add 1 Lab 3-19 to 5-23 ; 1 AF 1-1 to 3-26 & 11-22 to 12-31
1X10 Secaucus	1		4		4	
Total X Gang	5	1	41		41	
Grand Total	16	3	101	4	105	

2

PROGRAM 1951

SUMMER FORCE
DIVISION N°1

Effective 4-2-51 to 10-31-51 except as noted

GANG	FOREMEN	ASST FOREMEN	M or W LABORERS	OTHER DEPT LABORERS	TOTAL LABORERS	REMARKS
1	1	1	8		8	
34	1	1	8		8	
35	1		5		5	
3	1		5		5	Add 1 A F and 10 Lab 10-5 to 11-22
39	1		4		4	
Total Sections	11	4	68	4	72	
1X1 Dover	See work schedule for force allotment 1-2 to 12-31					
1X2 Summit	"	"	"	"	"	1-2 to 12-31
1X3 Secaucus	"	"	"	"	"	1-2 to 12-31
1X4 Hoboken	"	"	"	"	"	9-1 to 9-14
1X10 Secaucus	"	"	"	"	"	1-2 to 12-31
Garden Newark	"	"	"	"	"	1-2 to 12-31
Total X Gang	6	4	76		76	*Average Force 4-2 to 10-31
Grand Total	17	8	144	4	148	* " 4-2 to 10-31

* Includes extra asst foreman and laborers added to sections as shown under "Remarks"

3

PROGRAM 1951

TOTAL TRACK RAISING
DIVISION N°1

BRANCH	M P LOCATION FROM	M P LOCATION TO	TRACK N°	MILES SHOVEL TAMPING By Hand	MILES SHOVEL TAMPING Jackson Vibrator	MILES SHOVEL TAMPING Total	MILES MACHINE TAMPING Air Comp.	MILES MACHINE TAMPING Matisa	MILES MACHINE TAMPING Total	TOTAL MILES
Morris	2.0	2.3	1-2-3-4	1.2		1.2				1.2
"	2.7	6.6	1-2-3					*11.7	11.7	11.7
"	9.0	12.0	1-2-3					*9.0	9.0	9.0
"	34.0	38.0	2					*4.0	4.0	4.0
	Total	Main	Tracks	18.2	-	18.2	-	64.0	64.0	82.2

Notes:- * Matisa work to be done under detour.
' Work to be performed by section gangs.

4

PROGRAM 1951

EXTRA GANG WORK SCHEDULE
DIVISION N°1

GANG	HEADQUARTERS	START TIME	CONSIST F	CONSIST AF	CONSIST LAB	WORK	DATES FROM	DATES TO
1X1	Dover (Local)	7:00	1		11	Misc. work incl turnout renew. Dover Install splices in 34.9 to 36.4	3-26	3-30
			1	2	12	Gang #1 Matisa 1@ 3-30.5 to 34.0	4-2	5-1
			1	1	24	Fork Raise #2 - 28.0 to 36.0	5-2	9-5
						" #3 36.0 to 38.0	9-6	9-25
			1	2	12	Gang #1 Matisa #2 34.0 to 38.0	9-26	10-4
			1	1	24	Fork Raise #3 - 34.0 to 36.0	10-4	10-31
			1		11	Misc. work Div. #1	11-1	12-31
1X2	Summit (Local)	7:00	1		11	Misc. work incl turnout renew. Dover	1-2	3-16
			1	1	24	Fork Raise 1-2 to 6-6	3-19	3-23
			1	1	11	Summit Yd Renew Temperature Switch	11-23	11-9
						Misc. work Div. #1	12-10	12-31
1X4	Hoboken (Local)	7:00	1	1	20	Berg Tunnel - Surf. dig inties ballast	5-1	5-25
						Hob. Yd Raise, renew timber, tie & plate	5-28	6-22
						J.C Yd " " " ties & rail	6-25	8-17
						with gang 1X3	8-20	9-14
1X10	Meadows Yd (Local)	7:00	1		4	Work trains	1-2	12-31
Garden	Newark Yard	7:00	1		4	Garden work Div. #1	1-2	12-31

5

PROGRAM 1951

SCARIFIER @ 3008

BRANCH	TRK N°	M P LOCATION FROM	M P LOCATION TO	WORK	DATES * FROM	DATES * TO
MAIN	1	142.7	155.0	Loosen ballast ahead of Matisa Tamper	4-9	4-27
"	2	140.0	147.0	" " " " "	4-30	5-11
"	2	149.7	151.0	Scarify track ahead of Fork Raise	5-14	5-18
"	3	34.0	36.0	Scarify track ahead of Fork Raise	10-1	10-5
"	1	97.0	103.0	" " " " Jackson Tamper	10-8	10-31

Notes:- * Dates do not indicate continuous work but show merely the total time allotment for the machine on a particular territory

Reproductions of typical pages from the Lackawanna's roadway maintenance program book for 1951. Sheets 1 and 2 show how the "winter" and "summer" forces are tabulated for each of the divisions. Note that in the "summer force" tabulation the number and name of each extra gang—"1x1 Dover," etc.—is followed by a reference to the work schedule (Sheet 4) which gives the force allotment for each job. Sheet 3 shows how the track-raising work to be done on each division is tabulated, while Sheet 5 illustrates the manner in which the work schedules of the larger units of equipment—in this case a ballast scarifier—are laid out for the year

activities is the large amount of grading work that is now being done, largely with off-track equipment. This has involved a considerable amount of ditching and bank-widening work, the ultimate purpose being to provide a service highway along the railroad for the use of off-track machinery and trucks in locations where the railroad is not readily accessible to such equipment by other means. Much of the material needed to build the service highway is being obtained in connection with a program to widen cuts to make room for snow in territories where high winds are experienced. The railroad believes it is important to have substantial roadway shoulder, not only to support the track but to reduce frost actions under the track.

Work to be done by the bridge and building forces is programmed and scheduled in much the same way as roadway maintenance work. However, since so many unexpected jobs must be handled by the bridge and building gangs it is not possible to schedule the activities of these gangs with the same degree of precision as the track forces. With respect to these latter forces the railroad believes that the high degree of precision with which their work is programmed and scheduled is paying off in the form of lower maintenance costs.

How Fixed Charges Have Been Cut

By DR. JULIUS H. PARMELEE

Voluntary debt reductions by solvent companies have been the most important factor—Interest savings not all passed on to stockholders

The story of the accomplishment of the railroads in the direction of substantial reductions in debt obligations, and in annual service charges for such obligations, is one which reflects great credit on those responsible for fiscal policies in the railroad industry.

Table I shows the amount of railroad funded debt of railroads of Class I, as of the end of each year from 1936 to 1950. Entries have been added for 1932, that being the year in which railroad debt obligations were the greatest in railroad history.

Column 1 of Table I is a showing of the unmatured funded debt, exclusive of equipment obligations. Column 2 shows the equipments (including conditional sales contracts), and column 3 is the sum of columns 1 and 2. The remaining columns are included to round out the picture, but I shall here consider only the first three columns.

This is a portion of a paper prepared by Dr. Parmelee for presentation to the New York Society of Security Analysts on June 8.

Table 1—Railroad Funded Debt, 1936-1950*

Railways of Class I
(Millions of dollars)

Year	Funded debt unmatured (exc. equipment obligations)	Equipment obligations a	Total (Cols. 1 & 2)	Debt in default	Receivers' and trustees' securities b	Grand total (Cols. 3, 4 & 5)
	(1)	(2)	(3)	(4)	(5)	(6)
1932	$10,091	$727	$10,818	$ 65	$ 41	$10,924
1936	9,530	493	10,023	492	65	10,580
1937	9,623	550	10,173	481	62	10,716
1938	9,520	438	9,958	645	128	10,731
1939	9,303	425	9,728	816	147	10,691
1940	9,140	481	9,621	994	163	10,778
1941	9,001	625	9,626	879	162	10,667
1942	8,820	711	9,537	773	137	10,447
1943	8,378	774	9,152	758	9	9,919
1944	7,923	781	8,704	591	9	9,304
1945	7,429	773	8,202	605	c	8,807
1946	7,266	845	8,111	515	c	8,626
1947	6,915	1,084	7,999	336	c	8,335
1948	6,852	1,441	8,293	139	c	8,432
1949	6,708	1,693	8,401	205	—	8,606
1950	6,663	1,849	8,512	196	—	8,708
Average						
1936-40	9,423	478	9,901	686	113	10,699
1941-45	8,310	733	9,044	721	64	9,829
1946-50	6,881	1,382	8,263	278	c	8,541

* Funded debt actually outstanding of Class I line-haul railroads, excluding lessors.
a Includes also unpaid balances on conditional sales agreements and other contracts covering purchase of equipment, and (subsequent to 1942) receivers' and trustees' equipment obligations.
b Prior to 1943, figures in this column include receivers' and trustees' equipment obligations, which subsequently are included in the totals of column 2.
c Less than one-half million dollars.
Note: The funded debt items in the above table, plus "Amounts payable to affiliated companies," comprise the total of "Long-term debt," shown in the General Balance Sheet of the railroads, as reported by the Interstate Commerce Commission in its annual Statistics of Railways.
Source: Interstate Commerce Commission.

Unmatured funded debt (column 1) was reduced from $10,091 million in 1932 to $9,530 million in 1936. From 1936 to 1950, an almost uninterrupted series of reductions were made, the final result being $6,663 million in 1950. This was a decrease since 1936 of $2,867 million, or 30.1 per cent.

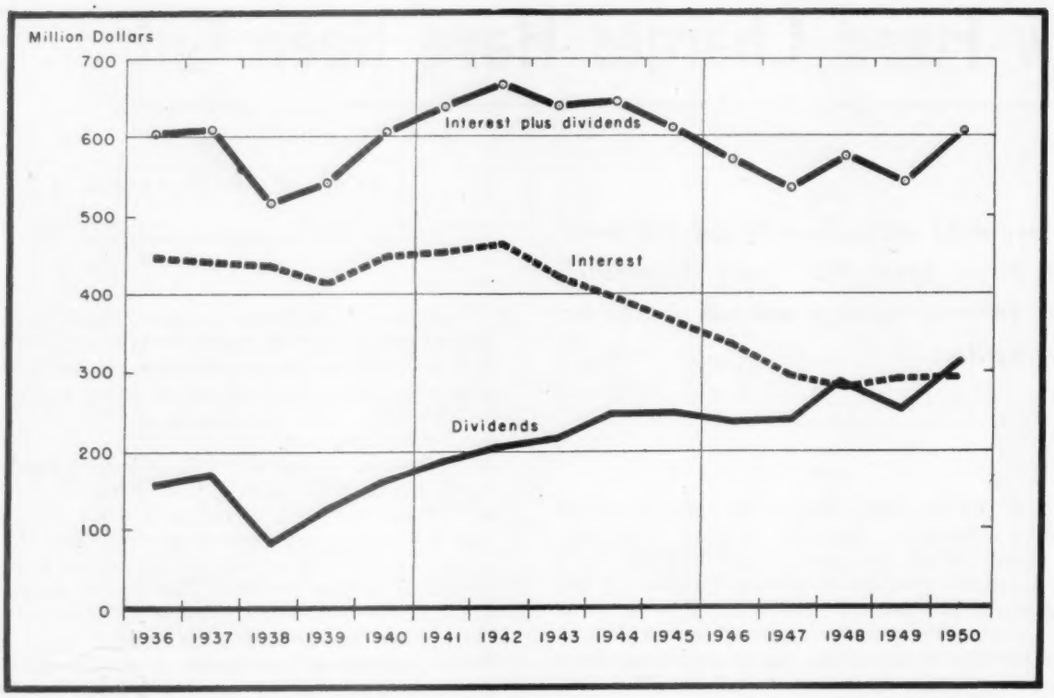
Equipments (column 2) showed an irregular trend from 1936 to 1945, ranging from a low of $425 million in 1939 to a high of $781 million in 1944. Since the war, however, equipments have consistently and sharply increased, from $773 million in 1945 to an all-time high of $1,849 million in 1950. This recent upturn has resulted from the extensive postwar improvement program —replacing and modernizing freight cars, installing diesel locomotives, and many passenger car improvements, coupled with the much higher and continuously

Table 2—Changes In Railroad Funded Debt, 1940-1945-1950*

(Thousands of dollars)

Railroad	1940	1945	1950	Decrease 1950 under 1940
	(1)	(2)	(3)	(4)
SOLVENT COMPANIES a				
Illinois Central	$346,840	$233,247	$161,729	$185,111
Union Pacific	338,423	333,275	175,369	163,054
New York Central	614,660	494,306	469,883	144,777
Pennsylvania	626,553	548,777	502,069	124,484
Southern Pacific	341,928	228,128	220,378	121,550
Atchison, Topeka & Santa Fe	303,552	203,156	200,467	103,085
Great Northern	315,626	228,549	215,364	100,262
Northern Pacific	306,324	251,285	236,733	69,591
Southern	256,455	194,651	192,569	63,886
New York, Chicago & St. Louis	161,311	112,666	97,508	63,803
Atlantic Coast Line	140,447	83,505	82,557	57,890
Chicago, Burlington & Quincy	223,672	172,061	171,272	52,400
Missouri-Kansas-Texas	109,371	66,769	61,492	47,879
Boston & Maine	121,749	95,097	81,632	40,117
Reading	121,935	96,788	88,529	33,406
Northwestern Pacific	30,203	30,203	—	30,203
Louisville & Nashville	212,025	162,187	182,920	29,105
Gulf, Mobile & Ohio	78,533	70,533	56,171	22,362
Chesapeake & Ohio	254,240	213,557	237,522	16,718
Texas & Pacific	74,673	63,794	58,856	15,817
Western Maryland	61,339	56,002	45,606	15,733
Colorado & Southern	47,889	41,400	34,900	12,989
Kansas City Southern	66,491	46,285	53,593	12,898
Duluth, Missabe & Iron Range	27,000	21,000	14,400	12,600
Delaware & Hudson	50,000	51,826	37,510	12,490
Grand Trunk Western	52,911	52,911	41,947	10,964
Pittsburgh & West Virginia	19,410	9,959	9,385	10,025
Total	5,303,560	4,161,917	3,730,361	1,573,199
REORGANIZED COMPANIES b				
Chic., Milwaukee, St. Paul & Pac.	432,188	167,680	161,777	270,411
Chicago & North Western	287,044	142,937	126,101	160,943
St. Louis-San Francisco	225,755	225,754	114,276	111,479
N. Y., New Haven & Hartford	221,463	199,490	173,602	47,861
Seaboard Air Line	113,306	37,650	73,118	40,188
Chicago, Rock Island & Pacific	93,809	93,809	53,994	39,815
Western Pacific	49,290	30,657	16,111	33,179
Central of Georgia	53,722	20,813	25,149	28,573
Minneapolis & St. Louis	24,405	—	—	24,405
Chicago Great Western	36,060	21,432	11,743	24,317
Chic., Indianapolis & Louisville	26,071	26,071	13,998	12,073
Norfolk Southern	15,237	9,725	4,822	10,415
Total	1,578,350	976,018	774,691	803,659
TOTAL—Solvent & reorganized companies, above	6,881,910	5,137,935	4,505,052	2,376,858
All other Class I railways	2,258,096	2,290,857	2,157,448	100,648
Grand Total—All Class I	9,140,006	7,428,792	6,662,500	2,477,506

* Funded debt, excluding equipment obligations.
a Includes all Class I solvent roads which show a reduction in funded debt of $10 million or more, 1950 compared with 1940.
b Includes all Class I roads in the hands of the courts in 1940, which have since been discharged, and which show a reduction in funded debt of $10 million or more, 1950 compared with 1940.
Source: Interstate Commerce Commission.



Interest on funded debt and cash dividends paid by Class I railways, 1936-1950, inclusive

rising equipment prices that have been experienced since the war.

Even after combining unmatured funded debt and equipments, as is done in column 3, there has been a substantial reduction from $10,023 million in 1936 to $8,512 million in 1950. This was a decrease of $1,511 million, or more than 15 per cent.

The question will doubtless arise—how much of these marked reductions in railroad debt was due to reorganization of capital structures under the bankruptcy laws, and how much was the result of voluntary debt reduction on the part of solvent railroad companies? It is a fair question, and Table 2 supplies at least a partial answer.

That table lists 27 solvent companies of Class I that reduced their funded debt (exclusive of equipments) by $10 million or more between 1940 and 1950. It also lists 12 companies that were in the hands of receivers or trustees in 1940, have since emerged from bankrutpcy, and in 1950 showed a debt reduction of $10 million or more between 1940 and 1950. For each of these 39 companies, and for Class I railways as a group, the funded debt is shown for 1940, for 1945, and for 1950, with the amount of reduction between 1940 and 1950 (column 4).

Table 3—Fixed and Contingent Charges, 1936-1950

Railways of Class I
(Thousands of dollars)

Year	Fixed charges: Rent for leased roads and equipment	Interest on funded debt [a]	Interest on unfunded debt	Amortization of discount on funded debt	Total fixed charges	Contingent interest on funded debt	Total fixed and contingent charges (Cols. 5 & 6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1936	$169,660	$446,179	$34,829	$2,661	$653,329	$12,718	$666,047
1937	147,766	441,249	37,209	2,702	629,026	12,716	641,742
1938	136,071	434,598	41,509	2,233	614,411	12,541	626,952
1939	143,697	414,426	48,017	1,600	607,740	23,871	631,611
1940	147,244	444,202	15,627	1,507	608,580	26,106	634,686
1941	154,285	452,107	11,750	1,450	619,592	17,389	636,981
1942	184,732	461,253	11,385	1,436	658,806	21,832	680,638
1943	166,590	421,781	7,087	1,620	597,078	21,586	618,664
1944	159,153	395,360	10,280	1,607	566,400	25,839	592,239
1945	142,395	364,706	14,288	1,472	522,861	21,100	543,961
1946	125,277	333,490	10,483	1,596	470,846	20,855	471,701
1947	126,696	298,753	9,298	2,067	436,814	27,166	463,980
1948	130,774	283,718	8,559	2,305	425,356	32,101	457,457
1949	120,645	290,022	7,824	2,867	421,358	31,224	452,582
1950	123,547	292,892	8,192	3,057	427,688	32,883	460,571
Avge. 1936-1940	148,888	436,151	35,438	2,141	622,618	17,590	640,208
Avge. 1941-1945	161,431	419,041	10,958	1,517	592,947	21,549	614,496
Avge. 1946-1950	125,388	299,775	8,871	2,378	436,412	28,846	461,258

[a] Includes interest on all classes of long-term debt, including funded debt unmatured, debt in default, receivers' and trustees' securities, equipment obligations, and amounts payable to affiliated companies, as well as a small amount of interest on debenture stock.

Source: Interstate Commerce Commission.

Table 4—Capital Stock and Cash Dividends Declared

Railways of Class I
1936-1950

Year	Capital stock (thousands)	Amount of dividends (thousands)	Average rate on stock (per cent)
	(1)	(2)	(3)
1936	$8,029,965	$154,514	1.92
1937	8,123,195	167,902	2.07
1938	8,148,602	82,733	1.02
1939	8,149,343	125,944	1.55
1940	8,159,960	159,315	1.95
1941	7,933,099	185,846	2.34
1942	7,947,352	202,270	2.55
1943	7,918,428	216,544	2.73
1944	7,960,658	245,978	3.09
1945	8,008,565	245,992	3.07
1946	8,036,390	234,582	2.92
1947	7,891,676	236,466	3.00
1948	7,923,453	289,247	3.65
1949	7,880.154	251,947	3.20
1950	7,876,438	312,099	3.96
Average 1936-1940	8,122,213	138,082	1.70
Average 1941-1945	7,953,620	219,326	2.76
Average 1946-1950	7,921,622	264,868	3.34

Source: Interstate Commerce Commission.

This table well repays study. It shows that, comparing 1950 with 1940, the 27 solvent companies effected a voluntary debt reduction of $1,573 million, the debt reduction of the 12 reorganized companies totaled $804 million, and all other Class I companies reported a reduction of $101 million. These changes may be tabulated as follows:

Group	Funded debt 1940	Reduction 1940-1950	Per cent reduction
	(millions of dollars)		
27 solvent companies	$5,304	$1,573	29.7
12 reorganized companies	1,578	804	50.9
All other Class I	2,258	101	4.5
Total Class I	$9,140	$2,478	27.1

The reorganized companies recorded a greater percentage reduction in debt than did the solvent companies, as was to be expected. But voluntary reductions made by the solvent companies aggregated nearly twice as great an amount as the total reduction of the reorganized companies, the bulk of the latter reduction (although not 100 per cent of it) being enforced in the reorganization process. It seems reasonable to conclude that for every dollar of such enforced railroad debt reduction during the past 10 years, voluntary reductions have amounted to two dollars.

Table 3 goes to the matter of annual charges, and the trend of such charges since 1936. Every one of the principal items set out in the table (except contingent interest) was reduced, as the following summary shows:

Item	1936	1950	Decrease 1936-1950
	(millions of dollars)		
Rentals	$170	$124	$ 46
Interest (funded debt)	446	293	153
Interest (unfunded debt)	35	8	27
Total fixed charges (a)	$653	$428	$225
Contingent interest	13	33	(i)20
Total fixed and contingent	$666	$461	$205

(a) Includes small amounts of amortization of discount on funded debt.
(i) Increase

The decrease in annual fixed charges, from 1936 to 1950, was $225 million, or 34.5 per cent. If contingent charges are included, the decrease was $205 million, or 30.8 per cent. This record, too, is one based on sound and conservative fiscal policy on the part of railroad boards of directors and managements.

Table 4 deals with the railroad stockholder. It shows (column 1) a general but moderate downward trend in the amount of outstanding capital stock, from 1936 to 1950. Columns 2 and 3 show, respectively, the amount of cash dividends declared each year, and the average rate of dividend.

Capital stock, which aggregated $8,030 million in 1936, was reduced to $7,876 million in 1950, even after the issue of considerable amounts of new preference stock in the course of various reorganizations.

The dividend trend has been irregular, and can best be traced by considering the five-year averages at the bottom of columns 2 and 3. Dividends averaged $138 million per year during the prewar period, at an average rate of only 1.70 per cent. The wartime average was $219 million, or 2.76 per cent, indicating no greatly increased distribution to stockholders of the improved net earnings of that period. Since the war, the average has moved up to $265 million, or 3.34 per cent.

It is fair to conclude that, except for a few outstanding railroads, the railroad stockholder remains the forgotten man in the security market.

The chart brings together on a comparative basis the interest on funded debt (including equipments) and the dividends on stock. These are trended over the period from 1936 to 1950. The upper curve on the chart combines interest and dividends, thus showing what railroad investors as a group—whether stockholders or bondholders—received during the period.

Interest, as already described, ran a generally downward course and dividends a generally upward course. In 1948, for the first time in many years, dividends exceeded interest, and the same was true of 1950.

In combination, the trend of interest and dividends was gradually upward to the wartime period, but from 1944 to 1949 was generally downward. In other words, the savings in interest charges have not been passed along 100 per cent to the stockholder in the form of increased dividends. He has benefited to some extent, but has also devoted some of the savings to increasing his equity.

On September 30, the Exchange Club of Chatham, N. Y., will sponsor its fourth annual "Gay Nineties" excursion via the Rutland from Chatham to Rutland, Vt., and return

After August 26, trains like this Canadian Pacific freight will be operated under the new "Uniform Code of Operating Rules"

New Uniform Rules for Canada

Greatly intensified program of instruction and testing is qualifying operating men before August 26 deadline

Effective August 26, a new "Uniform Code of Operating Rules" will govern all train operations on all railroads in the Dominion of Canada which come under the jurisdiction of the Board of Transport Commissioners, as reported originally in *Railway Age*, June 18, page 62.

This means that identical rules will govern the Canadian Pacific and the Canadian National systems, their subsidiaries, and the Toronto, Hamilton & Buffalo, the Ontario Northland, the Northern Alberta, the Pacific Great Eastern and various short lines, together with some of the half dozen-odd United States roads—like the Chesapeake & Ohio, the Wabash, the Delaware & Hudson and the Great Northern—which own and/or operate over trackage in Canada. The Michigan Central, operating through Ontario between Niagara Falls and Detroit, was not included in the roads agreeing originally to adopt the new uniform rules. However, it is believed that the Board of Transport Commissioners may require the M. C. to put in the new code as soon as is expedient. Crews of the New York Central system who operate over any part of the C. P. or the C. N. will be required to qualify by the August 26 deadline.

Heretofore each Canadian road operated under its own rules. Since nearly all Canadian lines, and U. S. lines running into Canada, used each other's facilities to some extent, qualification in the separate rules of numbers of owning companies has been a common obligation of train crews and supervisors. Promulgation of uniform rules will in some cases eliminate, and in others greatly diminish, the need for multiple qualification.

The new rules book was approved by the Canadian Board of Transport Commissioners by order dated April 7, 1951, following its formulation by a committee consisting of representatives of seven railroads, as follows:

Chairman, P. W. Raines, rules supervisor—system, Canadian Pacific; P. H. Fox, chief of transportation, Canadian National; H. Smith, superintendent of train dispatching, Canadian National; J. A. Thompson, trainmaster, Algoma Central & Hudson Bay; P. Preuex, chief rules examiner, Great Northern; K. E. Throckmorton, rules inspector, Chesapeake & Ohio; R. E. Taylor, general superintendent transportation, Canadian Pacific; W. J. Warnick, assistant to president, Toronto, Hamilton & Buffalo (on retirement, replaced by J. A. Hill, trainmaster); and C. L. Smith, rules instructor, Ontario Northland (on death, replaced by R. J. Sayer, rules instructor).

Classroom Days Again

Starting last May, school days came once again for some 27,000 operating officers and employees of the C. P. and about 30,000 operating personnel of the C. N. plus an unknown number of operating men of other Canadian roads and U. S. lines in Canada. A special program of mass education and testing was thrown into high gear,

A gigantic job in educating transportation personnel is being done by the railroads in Canada in connection with the new uniform code of operating rules which goes into effect August 26. This is a class on the Canadian National

so that everybody concerned with the new rules could be qualified by the August 26 deadline.

On the C. P., rules instructors were selected from the ranks of conductors, enginemen and train dispatchers, brought to headquarters at Montreal, and given special training under the system rules examiner, Mr. Raines. These "selectees" then went back to the individual operating divisions and, as part of the superintendents' staffs, are now giving training in the new uniform rules to employees. They carry out their duties under the supervision of regional rules instructors, who also cover the territory with instruction cars especially equipped to give audio-visual instruction and to display block and interlocking signals. The system rules supervisor is making individual contact with all operating officers of the C. P. on the new book. By this method, "it is expected that uniform understanding will be attained," to quote a C. P. operating officer.

On the C. N. similar arrangements were made for having division rules instructors meet with regional instructors before setting out to cover division personnel. Their work at terminals and other fixed points was supplemented by touring all lines in each of the company's three operating regions.

The New "Bible"

The new rule book will contain 681 rules, covering 163 pages. The rules and language are basically that of the "Standard Code" of the Association of American Railroads. While the latter is the recommended authority for all railroad rules covering train operation, block signals and interlockings in North America, nevertheless practically every road in the U.S. departs from it to some extent in its own rule book.

The new Canadian "Uniform Code" also departs from the "Standard Code" to the extent of "adjustments to suit operating conditions" in that country. Many of the rules, applications and examples in the former individual rules of the Canadian roads have been eliminated as being unrealistic under present day conditions. An important goal has been that of writing rules only in such a way that they can be observed with practicality in all instances.

The new "Uniform Code" makes specific and detailed provision for operation of trains by signal indication—for both following and opposing train movements—including centralized traffic control. Heretofore, on most Canadian roads, rules governing this type of operation were covered in separate manuals and/or by special rules issued periodically in current working timetables.

Examination Types

Employees who will have to qualify by August 26 include not only transportation employees, but section foremen, signal maintainers and others whose duties involve accurate knowledge of train operating rules. Supervisory personnel whose duties have to do with train operations must also qualify. Four categories of examinations are being given, identified as A to D, inclusive. Their length and comprehensiveness vary according to occupation. Thus, conductors, enginemen, dispatchers and other designated employees, as well as operating officers, write the longest and most complete test. Trainmen and firemen write a shorter version. There are separate tests for telegraphers and towermen, and for maintenance employees and supervisors, respectively. The Class A examination totals 1,068 questions.

In addition to written examinations, each employee is being required to pass a stiff oral test, given by regular or special rules instructors. While neither the written nor oral versions were designed with any expectation that individual employees must, or can, recite word for word the 681 rules in the new book, both tests are designed to enable the instructor-examiner to decide whether an employee knows the import of the rules and is qualified to fill a position of responsibility.

The present C. P. rule book dates back to 1910, although it has subsequently been reprinted frequently to include rules alterations designed to meet new operating conditions or to satisfy orders of the Board of Transport Commissioners. The C. N. book dates back as a basic document to 1929, with similar revisions in reprintings.

Package Controls

Never before has railroad management been faced with such great problems in its efforts to provide competitive service in the face of steeply rising costs. The modern diesel-electric locomotive is a splendid means of overcoming some of the most vexing difficulties, but its high investment cost warrants stern measures to keep it in continuous operation. Every possible effort must be made to reduce service detentions. As increasing labor costs continually upset maintenance budgets, forward looking management must be alert to adopt new methods for promoting more efficient repairs.

Package control is a little publicized tool for improving locomotive availability and for reducing service detentions and repair costs.

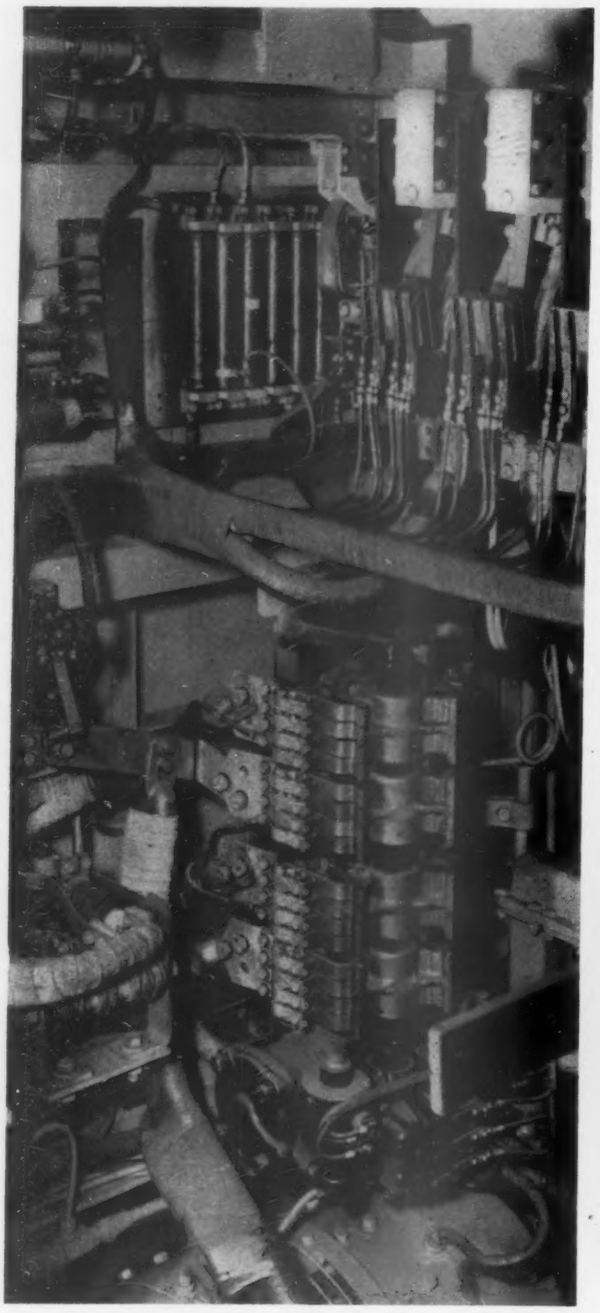


Fig. 1—Random mounting of control equipment on early diesel-electric locomotive

Everything comes in packages in these modern times. This pleases most of us because the packages are skillfully designed to fit conveniently on the storage shelf, on the table, or even in the pocket. Many are cleverly sealed for protection against dirt and moisture and all are of such size and weight as to be easily moved from place to place.

Our dictionaries still define a package as "a quantity of anything wrapped up or bound together." Many of us, however, have come to think that the phrase "which is easy to carry from one place to another" should be added.

The package idea is fast becoming permanent in the design of control devices for modern diesel-electric locomotives. These packages of controls are designed to have convenient shapes and sizes, and sufficiently small weights, so that they may be conveniently stored on the stockroom shelves, and readily conveyed to the point of use on the locomotive. They are usually sealed or otherwise protected against damage from dirt, moisture or rough handling.

Evolution of Package Controls

In early diesel-electric locomotives, the controls were treated as isolated devices, mounted at random wherever there was a convenient spot in the locomotive cab, and connected to the electrical circuits by weird arrangements of wiring and cable, with little regard to accessibility for maintenance purposes. For instance, Fig. 1 shows the traction motor reverser and power contactor interlocks so located as to receive the dirt thrown out by the auxiliary generator fan and the oil coming from the air com-

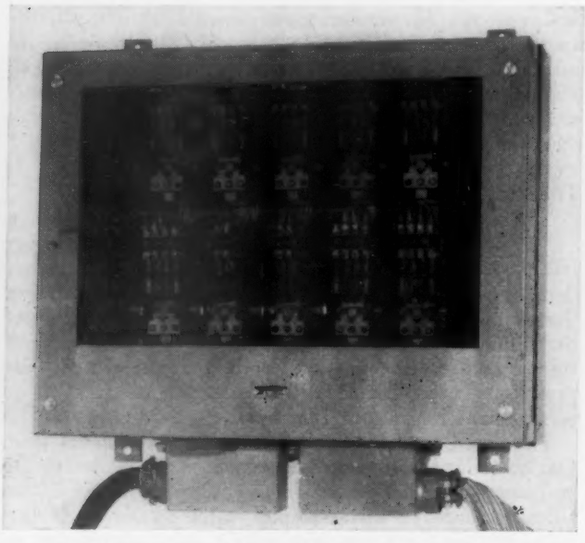


Fig. 2—Modern control apparatus package, arranged to protect equipment from dirt and moisture and to provide for easy replacement

For Diesel-Electric Locomotives

Locomotives must not be tied up for repair of small parts which can be so designed as to make their replacement easy

Written exclusively for *Railway Age*
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Control Engineering Division,
General Electric Company
Erie, Pa.

pressor located beneath. Also a small relay without any cover is above the field shunting resistor where it will get plenty of dirt and heat. Maintenance on equipment arranged in this somewhat haphazard fashion is necessarily greater in amount and less convenient to perform than it should be.

As locomotive designs progressed, controls were frequently arranged on switchboard type panels, usually of heavy slate or metal. The control devices were crowded on them, making maintenance of individual devices difficult, and discouraging the removal of these same devices to a bench where maintenance would be easy. Obviously, these panels were too large and heavy, and the outgoing connections too poorly arranged, to facilitate complete removal except where a railroad was willing to tie up a locomotive for an extended period.

In today's modern locomotive, the control apparatus is arranged in relatively small packages which are easy to remove and replace. They are usually clad in metal to minimize possible damage in handling, and sealed against dirt and moisture. The electrical connections are so arranged that it is difficult to mix up the wiring when installing the replacement package (see Fig. 2). Most of these metal-enclosed packages are arranged to house the smaller control devices which, by their nature, cannot withstand dirt or mechanical abuse. The main power devices, such as the traction motor reverser and the traction motor contactors can withstand considerable abuse and are therefore not usually enclosed in metal housings. Where the locomotive manufacturer employs reasonable precautions to prevent the entrance of dirt into the control compartment, these power devices appear to live rather well.

Competitive Users

Railroad competitors, particularly in the automotive and aviation fields, regularly employ the package idea. Starting motors, battery charging generators, ignition distributor and breaker assemblies, voltage regulators, and even the self-contained headlight dimmer switch are typical examples in the automotive field. Whenever it is important to keep the vehicle in service, it is customary to change out these package auxiliaries and to repair the faulty device on the work bench while the vehicle continues in service with its replacement package. Only an inefficient truck operator is willing to tie up his vehicle while the voltage regulator is being repaired.

The package idea is one of the fundamental principles in operation of aircraft for transportation purposes. Here it has been expanded to include entire engines and landing gear, as well as the hundreds of smaller components, particularly control devices. This idea enables the air-

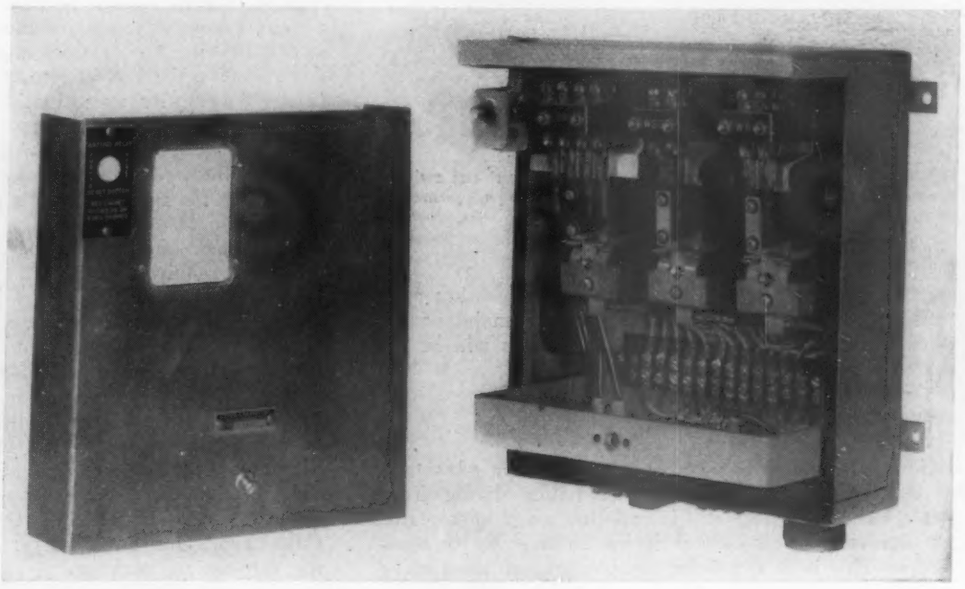


Fig. 3—Relay package with cover removed, showing plastic window and provision for reset button in cover

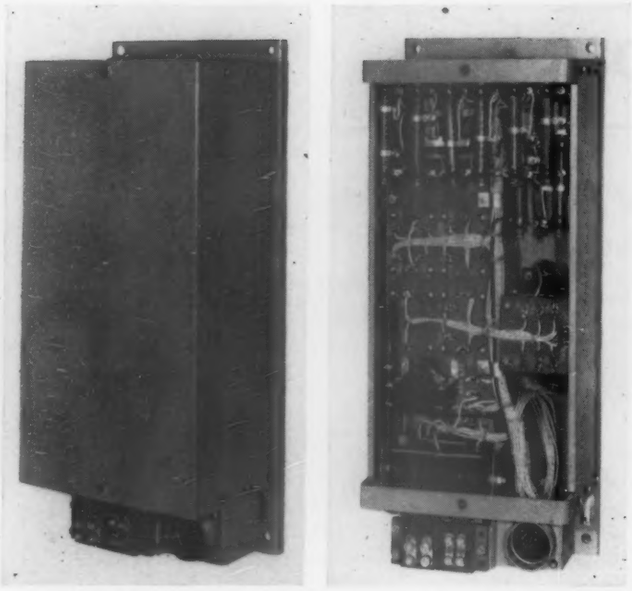


Fig. 4 (left)—The control package cover protects equipment from tampering, and may be fitted with a car seal to insure against removal except by authorized persons. Fig. 5 (right)—Connection studs and receptacles provide an accurate way of connecting external circuits to the control package

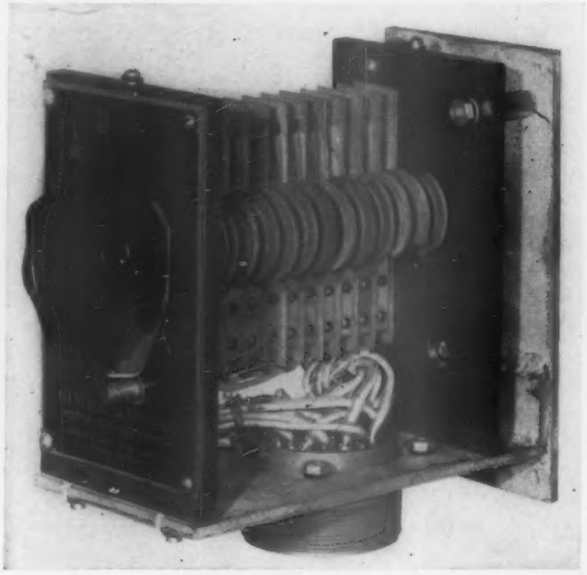


Fig. 6—Removal of the cover from this motor cut-out switch permits easy access for inspection and minor adjustments

craft designers to economize on space by locating controls in areas relatively inaccessible for maintenance, since in case of a faulty device the package will be removed and repaired in the shop.

Advantages

So far the railroads have not taken sufficient advantage of the package idea. Maintenance habits dating from steam locomotive days still include too many attempts to maintain and repair control devices in place on the locomotive. This means that the repair workman must carry all the necessary tools on board, must perform the work in inconvenient locations, experience frequent interference from other workmen and, above all, rush the job unnecessarily so that the locomotive can go back into service. All too frequently, this practice results in inadequate repairs and early service detentions. The primary advantage of the package idea is that the faulty control device can be quickly replaced by a good one and the locomotive returned to service promptly. Most modern control packages require only the removal of four mounting bolts and the disconnecting of the electric circuits, usually through a multipoint connection plug. Where a replacement package is available at the point of change-out, the entire operation will normally consume not more than 15 minutes. It is doubtful if even the simplest type of repair to a component within the package can be made on board the locomotive in less than one hour.

Repairing the Package

The package idea promotes more efficient and more reliable repairs. Railroads organized to take advantage of the package principle usually find it desirable to send the faulty package to a central maintenance point, where, under good working conditions and with skilled workmen, proper repairs can be made with every assurance that no service detentions will result. When one workman performs repetitive repairs on particular types of control packages, he acquires greater skill and does more reliable work. In contrast, when such work is attempted at outlying terminal or turnaround points, the lack of skill on the part of employees not regularly accustomed to the work creates a risk of ineffectual repairs and possible service detentions.

Another important advantage of package controls is protection from dirt. Figure 3 shows a small control package comprising the ground and wheel slip relays in a metal housing with removable cover arranged with a felt seal to exclude dirt and moisture. The transparent plastic window is included in the cover, along with a reset button so that the locomotive crew can see whether the ground relay has tripped and reset as desired. Experience shows that where railroads keep these covers in place, the dirt problem is eliminated.

Protection Against Tampering

Most modern control package designs give protection against tampering. For instance, the package assembly shown in Fig. 4 contains a number of adjustable control resistors, the correct setting of which is essential for proper locomotive operation. Unauthorized tampering with these resistor adjustments can produce weird results. The design of the package cover tends to discourage unauthorized tampering and it is a simple matter to arrange for application of a car seal. Although wilful persons can remove such a seal, they will invariably leave evidence of their tampering as a signal that correction is required.

The modern control package includes a well organized arrangement for the electric connections. Figure 5 is a typical example. The two auxiliary power circuits are brought into the package through four conventional connection studs. The difference in size of these studs tends to prevent wiring mixups at this point. The control circuits enter the package by a multi-point receptacle and plug arrangement keyed so that the plug can be inserted only in the single correct position—an obvious time-saver in disconnecting and reconnecting. There is very little chance for mixup in external connections in the modern control package.

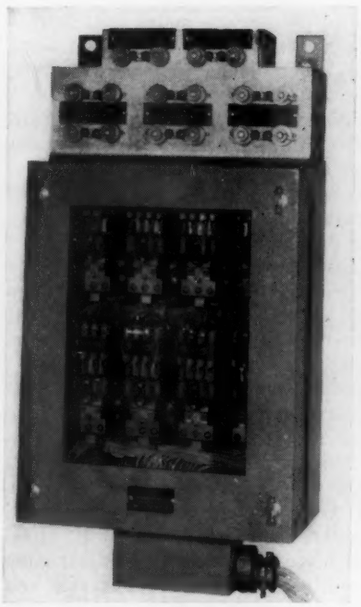


Fig. 7—Engine control panel with rheostats mounted outside the relay box to provide ready access for adjustment

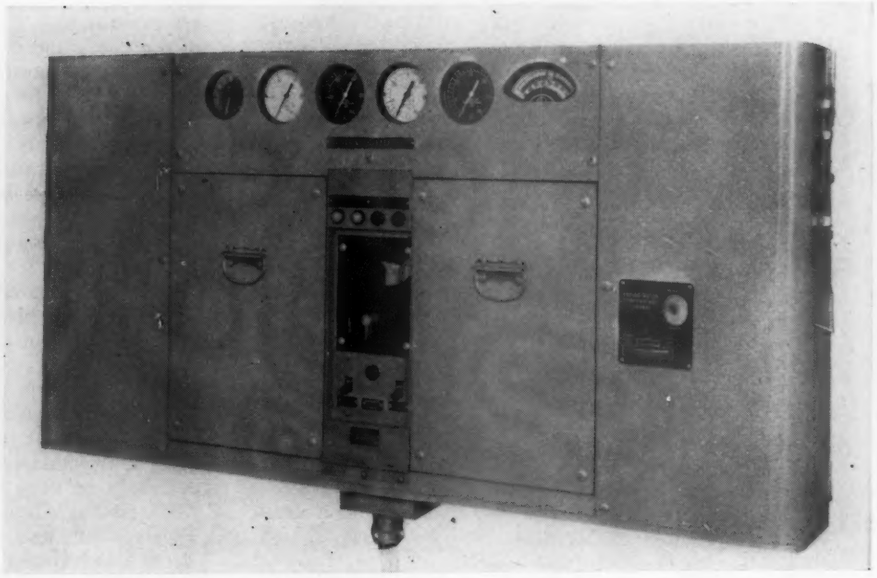


Fig. 8—Engine control panel for single-engine power plant

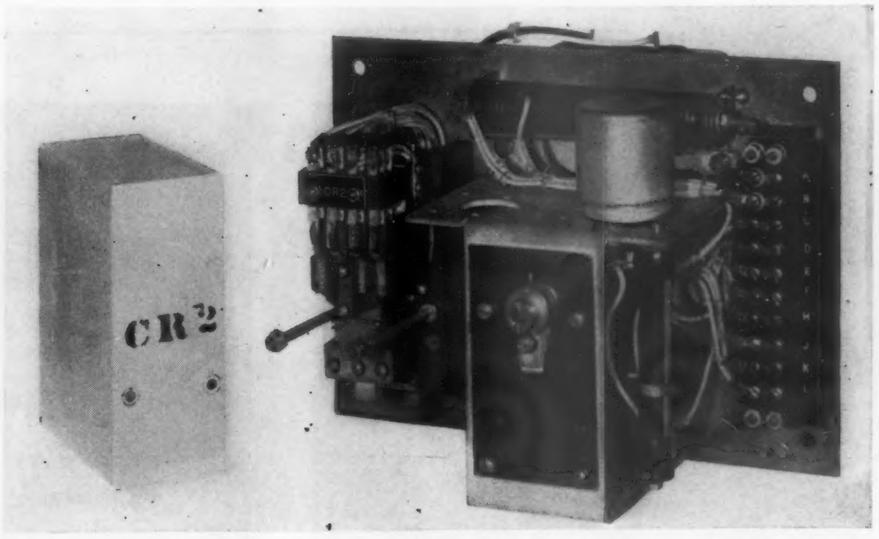


Fig. 9—Speed relay equipment for automatic control of traction motor transition

Package controls of good design provide reasonable access for making inspection and minor adjustments without the necessity of removing the package. The traction motor cutout switch shown in Fig. 6 is provided with a cover for excluding dirt. When the cover is removed all contacts, cams, and electrical connections are easily visible for inspection and simple adjustment purposes. It can then readily be determined whether the complete switch package should be changed out. Another example is the engine control panel, shown in Fig. 7, used with the electro-hydraulic engine governor. The metal cover with its plastic window is provided with a felt seal for dirt exclusion, but is readily removable for inspection of the relays. The rheostats for setting engine speeds are mounted outside the relay enclosure but shielded against mechanical damage by perforated metal. The adjustment knobs, fitted with suitable locking devices, are readily accessible.

When adopting the package control scheme, a railroad may encounter the question of which package to change out when trouble occurs and the exact location cannot be ascertained by visual inspection. This is no different in principle from the problem experienced when first encountering trouble with the diesel engine itself. Where a service representative of the locomotive manufacturer is available, he may assist in locating the trouble quickly. Otherwise, experience must be gained by trial and error. A railroad maintenance point, working with control packages, will soon learn to pick the right package for changeout.

Replacement Packages

The full advantages of the control package system can only be realized when both the central repair point and the outlying maintenance points where turnaround serv-

ice is performed are provided with stocks of replacement packages. The quantities required will depend upon the number of locomotives in service and the frequency of their passing through the turn-around maintenance points. Usually one of each type of control package at the turnaround point, and three at the central repair point, should constitute adequate protection. When lack of replacements holds locomotives out of service, the loss in dollars will usually be greater than the investment cost in a proper stock of replacement packages.

Size of Package

The size of control package varies widely, but as experience develops the optimum size of the package will become established. The largest package designed and applied to date is shown in Fig. 8. It is a complete engine control station for a 1,500-hp. or a 2,000-hp. single-engine power plant, and contains all items required for the electro-hydraulic governor, all gages and pressure and temperature switches for the engine itself, and also radiator fan control. This package, although weighing 265 lb., and requiring two men to transport it, is mounted on four bolts. A single multi-point plug connector handles all electric connections, and the five oil pressure connections are readily removable at the upper right hand corner. Since the design of this package permits easy access to the devices inside by removal of the doors and covers, experience shows that the complete package need only be removed in case of severe damage to the locomotive itself.

Figure 9 shows the smallest package of a panel nature designed to date, containing elements for automatic series-parallel transition control of the traction motors. The complete package weighs 15 lb. and the greatest dimension is approximately 11 in. The sensitive relay is, of itself, a complete package and mounts in a socket like those used for radio tubes. The auxiliary relay has its own metal cover. Because of the relative simplicity of the electric circuits, a conventional terminal board with well identified letters substitutes for the plug type connector.

Present experience indicates that railroad maintenance personnel responsible for keeping locomotives in service is well aware of the advantages of package control design, and would like to make full use of the idea. This can only be done when a sufficient quantity of replacement packages are carried in stock at both the central repair point, and at outlying maintenance points. However, it is believed that when railroad management compares the cost of locomotives removed from service and awaiting repairs to the investment costs in an adequate stock of replacement control packages, the present situation will be gradually improved.

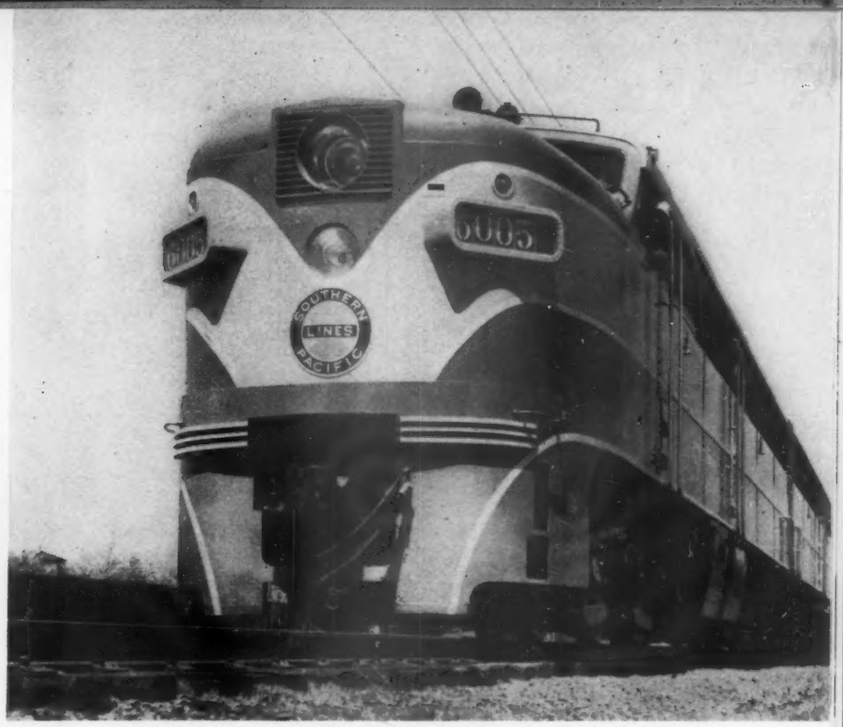
Left—The joint travel desk set up by the air lines at the Materials Handling Exposition in Chicago was an economical, yet effective, means of attracting business. Right—American Airlines distributed home-town newspapers

GETTING BUSINESSMEN'S TRAVEL AT THE SOURCE

The major air lines are convinced that there is a great deal of tangible patronage—as well as good will—to be gained from adequate representation at larger conventions of businessmen. At the Materials Handling Exposition in Chicago, which was attended by representatives of virtually every business in the country—some 23,000 registered—the air lines set up a joint "service center," staffed by personnel loaned by the participating companies. Inquirers could procure information about "best service routes"; clerks were instructed not to favor their own air line in making suggestions. Participating air lines agreed not to set up separate travel desks at the convention, but were free to establish non-competing means of attracting attention. American Airlines, for example, distributed, free of charge, the home-town newspapers of conventioneers.

The railroads were not formally represented at this convention.

Roads had asked 15 per cent; declare estimated added revenue of $564 million will meet "little more than half" the increases in operating expenses since 1949



Record purchases of new equipment must be financed largely from current earnings

New 6.6 Per Cent Freight Rate Increase "Disappointing" to Carriers

The Interstate Commerce Commission's August 2 decision in Ex Parte No. 175, authorizing an overall rate increase of 6.6 per cent, has been termed "disappointing" by spokesmen for the railroads.

As noted briefly in *Railway Age* last week, the new rates and charges are expected to add about $564 million a year to railroad revenue. Chairmen of the three territorial rate associations say this will meet "only a little more than half" the added operating expenses incurred in the past two years.

The railroads had based their plea for higher rates largely on a contention that wage and price increases since 1949 have increased operating expenses more than a billion dollars. They asked for a 15 per cent rate increase to help meet these higher costs. The commission's decision, made public August 8, authorized the roads to make increases generally of 9 per cent in Eastern territory, 6 per cent in the South and West, and 6 per cent on interterritorial traffic.

Except on grain, which requires 30 days notice, the carriers propose to make the new rates effective August 28. They filed the required notice with the I.C.C. on August 13. On this basis the new rates on grain and grain products will become effective September 12.

The new increases supersede the 2.4 per cent "interim" increase allowed by the commission last March (*Railway Age*, March 19, page 69). That increase, which became effective April 4, is included in the 6.6 per cent now authorized.

Giving effect to "hold-downs" and exceptions, it is estimated that the latest increases will average about 7.5 per cent in the East, 6.8 per cent in Pocahontas region, and 5.8 per cent in the South and West.

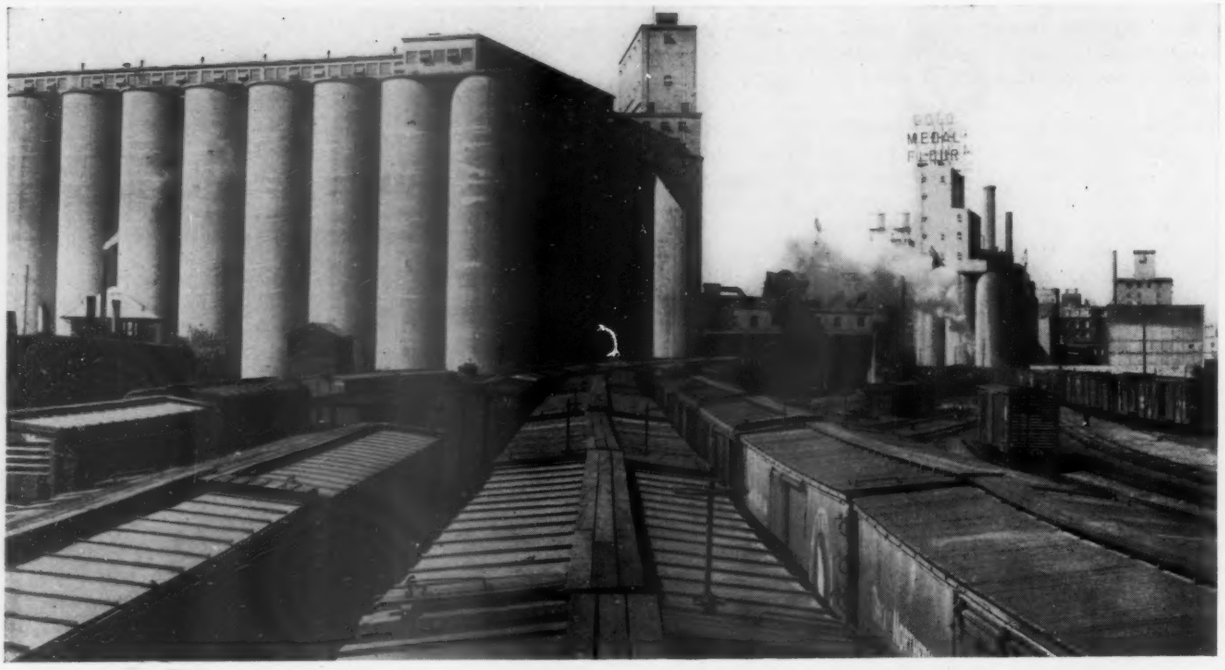
Added revenues accruing to each territory have been estimated as follows: East, $242,000,000; Pocahontas, $36,000,000; South, $71,000,000; West, $215,000,000.

As to why it authorized higher increases for the East, the commission referred to the "interim" decision of last March. There it explained that increased costs have fallen "with more severity" on the carriers in that territory.

Expiration Date

The new rates will be applied as surcharges, and permission to maintain them will expire February 28, 1953, unless sooner modified or terminated. The commission said that, in its judgment, no revenue increases authorized in Ex Parte 175 "should be prescribed as permanent or unremovable additions to the freight-rate structure."

The 143-page report contained 38 separate findings, and was the unanimous decision of the commission, with all but Commissioner Mitchell participating. There were no separate expressions by individual members. The report noted that the three participating state commis-



Rate increases on grain will not become effective until September 12

sioners who sat with the commission in the case "concur generally in the report."

Intervening water carriers and freight forwarders were authorized to increase their rates and charges along with the railroads.

Commenting on why it felt the railroads were entitled to an increase in their rates and charges, the commission had this to say:

"We believe at a time when the nation is bearing arms against aggression and undertaking extraordinary efforts in the way of defense mobilization for peace, the developing of a transportation system by the rail adequate to meet the needs of national defense, within the meaning of the national transportation policy, requires attention on our part in a proceeding of this kind, and warrants a degree of liberality in decision not otherwise to be taken into account.

"The railroads had on order August 1, 1951, for delivery at the earliest possible time, 144,810 freight cars having an aggregate cost of $760,256,500, and on July 1, 1951, had on order 2,233 diesel locomotives costing $334,950,000, and have under way plans for improvement to meet the defense needs of the country which will add many millions of dollars to both expenses and capital investments.

"We are not convinced that money necessary for capital additions to the railway systems should be derived wholly from income, but we must take note of the fact that many of these outlays are being made under the encouragement, if not the insistence, of the government and the shipping public, with national defense primarily in mind. Such circumstances, therefore, bear upon our decision in this case."

Having thus discussed matters warranting "a degree of liberality" in its decision, the commission outlined its views as to the effect further rate increases might have upon the general freight-rate structure.

"There are certain elements of durability, stability and permanence in a rate structure," the commission said. It then referred to the "gradual ascendence" of that structure since World War II, and concluded that the needs of the carriers for added revenues in the future "should be provided by measures which will avoid the integration of the increases with the existing or basic rates *per se*.

"We shall, therefore, retain jurisdiction of this proceeding and our findings and order, and the increases which we shall authorize shall continue only until the further order of the commission, but not later than February 28, 1953. They will take the form purely of revenue increases to be added to the total freight charges or freight bills and not as integral parts of the rates themselves."

Traffic and Revenue Estimates

The estimate that annual revenue would be increased approximately $564 million was made by the I.C.C. It is based on an estimated 632 billion ton-miles of freight traffic in 1951, and was contained in a notice issued with the decision by the commission's secretary, W. P. Bartel.

Freight revenue should increase by about $548 million, while "all other" operating revenue increases should amount to about $16 million more, the notice said. It noted, however, that railroad traffic officers have increased their estimate of 1951 ton-miles from 632 billion to 635 billion, "in which event the above revenue estimates would be increased."

The commission, in its report, referred to this matter of traffic estimates as "a principal issue" in the case. It said the government agencies, as well as the coal industry and others, question railroad estimates of traffic and revenues and expenses "on the ground that the two former are too low and the latter is too high."

In this connection, the commission added some criticism of its own. It reviewed the various figures submitted by the carriers and concluded that traffic and revenue estimates "may be characterized as conservative."

As to operating expenses, the commission thought the railroads "somewhat too high."

Compared with railroad estimates, the government agencies submitted predictions of 1951 traffic volume ranging from 646 billion ton-miles, by the Department of Commerce, to 790 billion ton-miles, by the General Services Administration.

"It is difficult to evaluate these widely varying estimates of 1951 freight ton-miles presented by the various governmental agencies," the commission said. It later added: "On the basis of information at present available, we conclude that none of the government agencies seriously expect 1951 ton-miles to exceed 675 billion or even to reach that figure." The government agencies had made traffic volume a key issue in opposing the railroad request for higher rates. They argued that a high traffic volume in 1951 would largely offset the increased cost of wages and materials.

Deficits and Dieselization

Other matters that came up during the course of the hearings in Ex Parte 175 were discussed in the commission's report. These included so-called Section 22 quotations, the passenger service deficit, operating efficiency and dieselization.

The commission recalled the testimony of one shipper who said Section 22 rates result in preferences for government traffic and shrinkage of carriers' revenue. Such losses, in turn, it was contended, force the roads to seek higher rates from private shippers. The commission concluded that this is a matter "which may warrant study, but is obviously not susceptible of comprehensive treatment in the instant proceeding."

As to the passenger service deficit, a witness for the secretary of agriculture cited it as one reason farmers have to pay higher freight rates. The commission noted it discussed this situation in Ex Parte 168, and added: "The proposal to eliminate passenger trains that fail to pay their directly assigned costs takes no account of the struggles of the railroads over many years to dispense with much unprofitable passenger service against the frequent, if not customary, public opposition to the curtailment of such service. Much of such opposition is to be found in agricultural areas."

Increased operating efficiency and dieselization were cited, during the hearings, as factors that will "more than offset" increased wage and material costs in 1951.

The commission agreed that there is "increasing evidence" of substantial improvement in operating efficiency generally. But it could not go along with estimates of increased savings in 1951 as a result of further use of diesels. Such estimates assume that diesels will be available to handle the traffic forecast, the commission said. It then pointed out that material shortages "are said to threaten the production program and could affect repair operations on existing diesels."

Details as to specific rate increases, and the "hold-downs" on various commodities, were outlined in the 38 "findings" in the commission's decision.

The increases on grain, grain products, grain byproducts, and articles taking the same rates, are limited to 6 per cent, "to, from, and within all territories."

Rates on anthracite and bituminous coal and coke, with exceptions, may be increased 6 per cent, subject to a maximum of 20 cents per net ton or 22 cents per gross ton. Where coal moves over rail-water routes, the aggregate amount of the rates or rate factors subject to commission jurisdiction "shall be considered as the rate to be increased, and be subject to a single increase."

One exception applying to coal traffic stipulates that the increase in rates on coal to East St. Louis, Ill., and Alton, when for movement by barge to points on the Mississippi river, "shall not exceed 8 cents per net ton or 9 cents per gross ton from Illinois and western Kentucky mines, exclusive of dumping and switching charges."

The other exception on coal provides that the increase in rates on coal and coke to the North Atlantic ports, Hampton Roads-New York, inclusive, when for movement by water to New England ports, thence by rail or barge to the interior, "shall not exceed 10 cents per net ton or 11 cents per gross ton."

Iron ore will take a 6 per cent increase to, from, and within all territories. Charges for handling iron ore at upper or lower Great Lakes ports may also be increased 6 per cent. The carriers proposed no increase in charges for storing iron ore at the lower lake ports, so the commission authorized none.

Rates on lignite coal, or lignite coal briquets, will be increased 3 per cent, subject to a maximum of 10 cents per net ton and 11 cents per gross ton.

On fresh fruits (including citrus fruits), fresh vegetables, melons, and canned or preserved food products, a maximum increase of 6 cents per 100 lb. was prescribed. Increases on sugar are limited to 4 cents per 100 lb., as is the case with lumber and articles listed in tariffs as taking lumber rates. Building woodwork and millwork may be increased not more than 5 cents per 100 lb.

The commission rejected altogether the carrier proposal to increase charges for protective services. It did, however, approve application of the general increases to various other services, including the transportation of milk and cream in passenger and freight service; collection-on-delivery; switching, trap and ferry car services; crane service; diversion and reconsignment; stopping in transit; and operation of special freight trains.

Also taking the general percentage increase will be minimum charges; all-commodity rates; and line-haul rates; on freight in truck bodies, trailers or semitrailers on flat cars. International rates to or from Canada and Mexico, whether single-factor or combination, may take the full increases, insofar as they are within the commission's jurisdiction.

Joint Rates

Joint rates between rail carriers and water or motor carriers may be increased to the same extent and manner as all-rail rates. Class rates will also take the percentage increases, with the understanding that the increases shall apply to class rates as heretofore or hereafter prescribed to remove violations of the undue preference clause.

Charges for loading or unloading of livestock will not be increased, nor will unloading charges applied to fresh fruits and vegetables at New York and Philadelphia, Pa. But for loading and unloading carload freight generally the full percentage increases will apply. They will also apply to charges for various accessorial or terminal services, such as storage, floatage, lighterage, demurrage on lighters or car floats, weighing, etc. The commission noted that no increase is proposed or authorized in charges for demurrage for freight cars.

Another "finding" provides that where through rates are made by combining separately stated rates, each factor of the combination may be increased separately except where the increase is subject to a maximum. In that event, the maximum increase shall be observed in connection with the entire through rate.

GENERAL NEWS

Farrington Tells Why Floods Caught Rock Island

In a message contained in the current Rock Island monthly magazine, President J. D. Farrington revealed the background which led to some 900 loaded and 700 empty freight cars being trapped by floodwaters of the Kaw river in the road's Armourdale yards at Kansas City, Kan.

After first expressing his gratitude to all employees who helped to restore operations "with a speed which one would not have thought possible," Mr. Farrington summarized the events that led to the complete inundation of Armourdale facilities. He said that even while washouts were occurring along the Kaw river between Kansas City and Topeka, and at other points west of Topeka, "We were not too greatly concerned about the situation at Armourdale."

"There had been many floods in varying degrees none of which, since 1903, had caused any damage. Since the 1903 floods a vast system of dike and flood protection through Kansas City had been constructed. And while between July 9 and 13 the waters were rising, we were continually assured by those in authority that the river would crest at a height well below the top of the dikes, and that no serious damage was anticipated."

It was because of this assurance, he explained, that the Rock Island's yard was caught with so many cars that could not be moved to safety. There was just time to run all diesel units to safe ground, he said.

In his message, Mr. Farrington also expressed deep concern for the personal losses which employees of the flood area sustained. He revealed that a relief fund is being made ready so that the railroad can help its employees where financial help is needed and that a survey was being conducted to determine the extent of personal loss suffered by individual employees.

The actual loss to the railroad itself, Mr. Farrington said, has not yet been determined. He expected that because of the "strong financial position" of the road, the catastrophe will not "cause financial hardship."

Freight Car Loadings

Loadings of revenue freight in the week ended August 11 totaled 809,354 cars, the Association of American Railroads announced on August 16. This was a decrease of 4,012 cars, or 0.5 per cent, compared with the previous week; a decrease of 38,354 cars, or 4.5 per cent, compared with the corresponding week last year; and an increase of 81,325 cars, or 11.2 per cent, compared with the equivalent 1949 week.

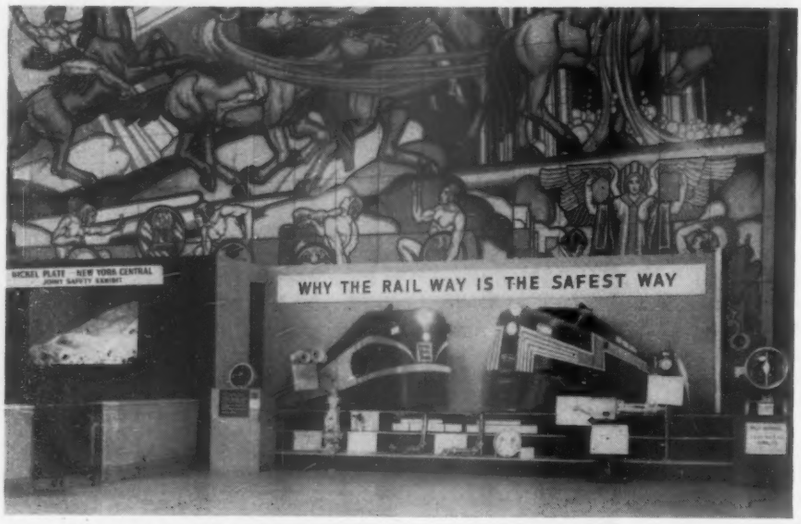
Loadings of revenue freight for the week ended August 4 totaled 813,366 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, August 4

District	1951	1950	1949
Eastern	135,101	148,425	123,611
Allegheny	168,356	169,410	136,718
Pocahontas	64,508	61,163	46,442
Southern	122,880	127,369	105,126
Northwestern ..	140,252	138,647	132,481
Central Western	122,417	129,042	116,281
Southwestern ..	59,852	63,374	56,204
Total Western Districts	322,521	331,063	304,966
Total All Roads	813,366	837,430	716,863
Commodities:			
Grain and grain products	55,719	56,754	59,541
Livestock	7,254	7,335	8,916
Coal	142,324	151,061	108,525
Coke	16,570	15,157	9,153
Forest products .	49,634	49,462	40,740
Ore	89,683	78,534	71,655
Merchandise l.c.l.	72,207	85,862	89,402
Miscellaneous ..	379,975	393,265	328,931
August 4	813,366	837,430	716,863
July 28	819,875	845,011	724,044
July 21	804,570	830,076	718,516
July 14	779,454	789,406	724,183
July 7	588,246	553,910	595,321
Cumulative total 31 weeks	23,722,915	21,740,583	22,216,009

In Canada.—Car loadings for the weeks ended July 28 and August 4 totaled 84,038 cars and 78,586 cars, respectively, compared with a revised total of 84,782 cars for the week ended July 21, and 81,018 cars, and 77,968 cars, respectively, for the weeks ended July 29 and August 5, 1950, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
August 4, 1951	78,586	32,904
August 5, 1950	77,968	34,713
July 28, 1951	84,038	33,580
July 29,1950	81,018	34,057
Cumulative totals for Canada:		
August 4, 1951	2,452,066	1,084,504
August 5, 1950	2,263,260	958,664



TO DEMONSTRATE how modern signaling devices and automatic controls have played a major role in safety of railroad passenger operations, the Nickel Plate and the New York Central have set up a working display of signal and safety equipment in the concourse of the Cleveland Union Terminal. The idea for the display was conceived by President L. L. White, of the Nickel Plate. He and C. F. Wiegele, general manager of the C.U.T. and of N.Y.C. Lines West, officially opened the display on July 25 by switching on a group of oscillating safety lights which are a part of the exhibit. Among devices which are being exhibited are automatic train control, locomotive "dead man" control equipment, oscillating safety lights (some of which are mounted in Nickel Plate and New York Central locomotive mock-ups), and a duplicate of the terminal's interlocking tower diagram

United Air Lines Plans Transcontinental Air Coach

Plans for a coast-to-coast air coach service have been announced by United Air Lines with the filing of an application with the Civil Aeronautics Board to inaugurate service on September 30. Plans call for operation of 66-passenger, four-engine DC-4 planes designed to meet the competition of non-scheduled plane operators. There will be one plane a day in each direction, stopping only at Chicago.

Westbound it will leave New York at 2 p.m. and Chicago at 6:20 p.m. and reach San Francisco at 4:10 a.m. Eastbound, it will leave San Francisco at 1:00 p.m., reaching Chicago at 1:20 a.m., and New York at 6:45 a.m.

United first began air coach services between San Francisco and Los Angeles on May 14, 1950, to meet competition of intrastate air lines beyond the jurisdiction of the C.A.B. Six round trips of daytime coach service are now being operated on this route, at, the company reports, a profit on revenues from passengers only. One

• A slick and sleek modern railroad train is literally *tons* of fasteners on wheels! When stripped of its fancy frills and streamlined exteriors, the thousands of bolts, nuts, cotters and other fasteners that hold it together come to view.

It is this picture that interests the railroad man most. Fastener efficiency is of paramount importance to him both from an economy and safety standpoint.

That's why you'll find Lamson fasteners "riding the rails" of America. Big or small . . . they're the choice of railroad men everywhere because they're "railroad engineered" to meet railroad requirements.

RAILROAD SALES DEPARTMENT
THE LAMSON & SESSIONS COMPANY
General Offices: 1971 West 85th St. • Cleveland 2, Ohio
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Send for this booklet for additional information on Lamson "Railroad Engineered" Fasteners.

Lamson & Sessions

FASTENERS THAT KEEP PACE WITH RAILROAD PROGRESS

News Briefs . . .

. . . The New Haven has instituted a service charge of 15 cents on each intrastate ticket turned in for redemption at stations in New York state. A similar charge on interstate tickets, and intrastate tickets in Connecticut, Massachusetts and Rhode Island, went into effect last March 1.

. . . The Illinois Central marked the 25th anniversary of the electrification of its Chicago suburban service on August 7 with a ceremony and the placing of a bronze marker at the Randolph Street suburban station.

. . . Almost 1,000 grammar school children from eastern Nevada rode the Western Pacific's third annual Shrine Circus special train on August 8. The circus train originated at Winnemucca, Nev.—though many of the children came from points farther east by school bus—and carried the children over 200 miles to Reno for a special performance of the Shrine Circus. Enroute the children received box lunches and dinner provided by the Shriners, as well as unbelievable amounts of soda pop and ice cream sandwiches. A doctor and a nurse accompanied the train for any cases where hot dogs and pink lemonade didn't mix. The W.P. charged only a nominal fare to satisfy I.C.C. requirements, making the train its contribution to the work being done by the Shriners on behalf of the children.

round trip of overnight air coach service is operated between San Francisco and Portland-Seattle.

Proposed fares on the new transcontinental air coach route and the existing fares on the Pacific Coast air coach route are shown below, compared with regular plane and rail fares, and with the special fares introduced by western railroads to meet this air coach competition.

ONE WAY FARES—WITHOUT TAX

BETWEEN	Reg. Air Service	Air Coach Service	Reg. Rail Coach	Special Rail Coach
New York-Chicago	$44.10	$35.00	$30.71	None
N. York-San Fran.	157.85	110.00	76.81	None
Chicago-San Fran.	113.75	85.00	48.79	None
San Fran.-Los Ang.	21.05	11.70	11.84	$7.50
San Fran.-Portland	34.15	25.15	18.58	12.00
San Fran.-Seattle	42.50	31.00	23.16	15.30

Air coach service is provided with one stewardess per plane, and with no meal service. United's experience in its Pacific Coast operations, demonstrating that air coach service can be operated without diverting business from regular planes, led to the decision to inaugurate air coach service on its transcontinental route. Several regularly scheduled air lines are now providing coach service between New York and Chicago, and between New York and the Pacific Coast.

Wilson Calls 60-Day Halt In Fast Tax Write-Offs

Defense Mobilizer Charles E. Wilson last week ordered a 60-day moratorium, effective August 18, on the granting of accelerated amortization certificates.

In a letter to Defense Production Administrator Manly Fleischmann, whose agency dispenses the certificates, Mr. Wilson said exceptions to this general moratorium should be made only for "urgent" cases. He explained that the moratorium will afford an opportunity for a "complete review" of the fast tax write-off program.

"As we move closer to the realization of our expansion goals within specific categories, we should tighten our standards and adhere to specific rules wherever possible. This should result in generally lower percentages of amortization, although there will be specific instances which will not fit this pattern," Mr. Wilson said.

First Union Shop in East Between "Non-Ops"-N.Y.C.

The New York Central has entered an agreement leading to the establishment of a union shop for all non-operating employees on that road. The N.Y.C. is the first major road in the East and the second large carrier in the country to agree to the "non-op" union shop. A similar agreement was signed previously on the Great Northern.

At the National Mediation Board it was explained the N.Y.C. agreement constitutes a basis for agreements between individual "non-op" unions and the carrier. The overall agreement provides that the union shop clause become effective August 16. There are also provisions for the check-off of union dues, but no effective date has been set for the latter.

Legislation authorizing the inclusion of union shop and check-off provisions in labor-management agreements was passed by Congress early this year. (*Railway Age*, January 8, page 54).

White Compares Rail, Air Mail Payments

Unsubsidized railroads must compete with other means of transportation, such as trucks, planes and barges, which get large subsidies and yet are used by relatively few people. Col. Roy B. White, president of the Baltimore & Ohio, told delegates to the Duke University Mathematics Institute at Durham, N. C., on August 7. Since railroads "are public utilities with built-in public responsibilities," Col. White said, "they must accept very close supervision and regulation in the interest of the public welfare. On the one hand, our rates, both for passengers and freight, are regulated. On the other hand, we must compete vigorously for available business, often with means of transportation which get big subsidies—as the railroads do not—from our tax dollars . . . with benefits usually reserved for the relatively few users of these subsidized operations."

Col. White pointed out "that in a recent year, the air lines carried less than six per cent of first-class, intercity, U.S. mail, and for this work received from the government approximately $41,000,000. In this same year, the railroads carried more than 94 per cent of first-class inter-city mail, and for this they were paid $26,000,000. Thus, the government paid the railroads $15,000,000 less than it paid the air lines for carrying 18 times as much mail as was carried by the airlines."

Col. White emphasized that railroads must operate under conditions which place a premium on efficiency and that they must seek constantly for every tool which will help get the job done. "Our decisions are guided by facts and figures, by estimates, by forecasts, by comparisons, and by analysis—in short by the science of mathematics."

Col. White spoke at the opening banquet of the 11th annual Mathematics Institute. Founded and directed by Prof. W. W. Rankin of the Duke mathematics department the 11-day institute is designed to acquaint teachers with new developments in mathematics teaching and with applications of mathematics in industry and business.

C. N. Hotel Employees Submit Wage Demands

A move for wage-hour concessions has been launched on behalf of employees of Canadian National hotels, who got only a partial share of last year's rail-strike settlement.

Officials of the Canadian Brotherhood of Railway Employees have filed a formal demand for higher pay and a shorter work week in a new contract to replace one expiring Septem-1. For about 2,000 of its members the union is asking an across-the-board increase of 20 cents an hour, along with a five-day, 40-hour work week with no reduction in pay from the present 48 hours. The average pay now is about 80 cents an hour. C.B.R.E. contracts are in effect in all C.N. hotels except those at Halifax, Edmonton and St. John's, Nfld., and also in the Vancouver Hotel, operated jointly by the C.N. and the Canadian Pacific.

The Hotel & Restaurant Workers' International Union (A.F.L.-T.L.C.), which has collective bargaining rights at St. John's, Halifax and Edmonton, is making the same demands as the C.B.R.E. for C.N. hotels in the latter two cities. The St. John's contract does not become open at this time.

Canadian Pacific hotels — except for the Vancouver — are not affected by the new move. These are under provincial labor laws and engage in separate bargaining with no contracts coming up for renewal until around the end of the year.

Out of the government-arbitrated settlement of last year's general rail strike, C.N. hotel workers got a wage increase of four cents an hour, with a one-year contract running from last September 1. The bulk of employees in

actual rail service got a seven-cent increase along with a 40-hour work week without loss of pay from the previous 48 hours. These concessions were embodied in two-year contracts that still have about 13 months to run.

June Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics preliminary summary of steam railway accidents for June and this year's first six months. The compilation, which is subject to revision, follows:

Item	Month of June 1951	Month of June 1950	6 months ended with June 1951	6 months ended with June 1950
Number of train accidents*	796	841	5,442	4,561
Number of accidents resulting in casualties	37	21	273	212
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	128	132	511	510
Injured	106	112	461	531
Passengers on trains:				
(a) In train accidents*				
Killed	..	..	92	30
Injured	55	1	895	520
(b) In train-service accidents				
Killed	1	3	6	11
Injured	160	156	825	945
Travelers not on trains:				
Killed	1	..	3	3
Injured	61	45	370	394
Employees on duty:				
Killed	29	20	183	141
Injured	1,778	1,685	11,379	9,583
All other nontrespassers:**				
Killed	120	108	814	775
Injured	369	414	2,990	2,794
Total—All classes of persons:				
Killed	279	263	1,609	1,470
Injured	2,529	2,413	16,920	14,767

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $275 or more to railway property in 1950. Beginning January 1, 1951, this minimum was raised to $300. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers*, were as follows:

Persons:				
Killed	100	99	750	717
Injured	232	257	2,047	1,972

June Employment

Railroad employment increased 0.3 per cent—from 1,291,172 to 1,295,045—from mid-May to mid-June, and the mid-June total was 4.36 per cent above that of June 1950, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The index of employment, based on the 1935-1939 average as 100, was 125.2 in June, compared with 127 for the previous month, and 120 for June 1950.

June employment was below that of the previous month in four of the seven groups, the range of decreases having been from 1.55 per cent in the maintenance of equipment and stores group to 0.19 per cent in the group embracing transportation employees other than those in train, engine and yard service. Largest of the increases in the other three groups, and the only one amounting to as much as one per cent, was the 4.01 per cent rise in the maintenance of way and structures group.

As compared with June 1950, employment increased in all groups. The increases ranged from 6.18 per cent in the maintenance of equipment and stores group to 1.69 per cent in the group embracing transportation employees other than those in train, engine and yard service.

Commuter Fare Increases In East Blocked by I.C.C.

The Interstate Commerce Commission has suspended the proposed increase in commutation fares filed by 11 Eastern railroads. The suspension runs to March 9, 1952.

The roads on July 10 filed tariffs containing the proposed increases, and the higher fares were to become effective August 10. The increases proposed by the roads ranged up to 30 per cent, and were designed to offset in part the large increases in the cost of providing commuter service. (*Railway Age*, July 16, page 34.)

Among those protesting the increases was the Office of Price Stabilization. O.P.S. called the proposal "inflationary," and said it would increase the cost of living for commuters. The I.C.C. also received letters of complaint from about 200 individuals.

Meanwhile, as the commutation fares were suspended, the O.P.S. entered another fare-increase case. It lodged a protest with the I.C.C. against the proposal of 32 Eastern roads to increase round-trip fares for distances of 225 miles and over. (*Railway Age*, July 23, page 52.)

Henderson Medal Awarded To Hermann Lemp

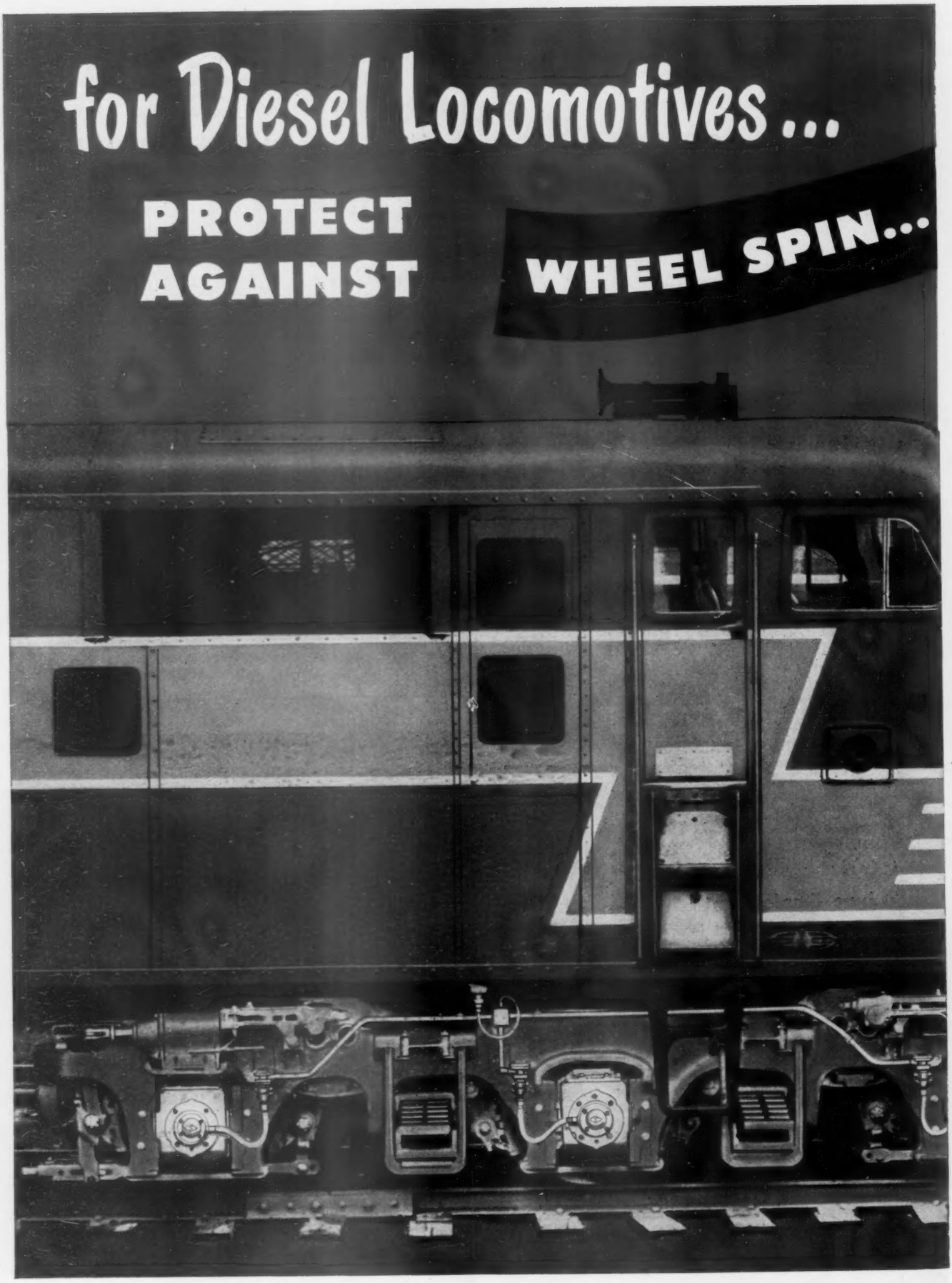
The Franklin Institute has awarded the George R. Henderson Medal to Hermann Lemp, of Ridgewood, N. J., for his contributions to development of the diesel-electric locomotive. The Henderson Medal, founded in 1924, is a gold medal given for meritorious inventions or discoveries in railway engineering. Formal presentation to Mr. Lemp will be made on October 17 at special ceremonies in Franklin Hall, Philadelphia.

Mr. Lemp, a naturalized citizen of the United States, was born in Berne, Switzerland, in 1862. He came to this country to work in the laboratories of Thomas Edison in Menlo Park, N. J., and New York. After six years as an electrical engineer with the Schuyler Electric Company, he was chief engineer of the Thomson Electrical Welding Company in 1889-1895. He was for many years affiliated with the General Electric Company in Massachusetts and in Erie, Pa., where he developed the electric transmission for diesel-electric locomotives. He later became chief engineer for the Erie Steam Shovel Company and then con-

(Continued on page 64)

Acme Radiophoto

KOREAN PEACE NEGOTIATORS for the United Nations are reported to be living in this 19-car "deluxe" train of passenger equipment hastily gathered from various sectors of that war-torn nation. Diesel-powered, the train includes a number of business cars and "conference" cars, in addition to several luxury cars that formerly belonged to Japanese and Korean royalty. For its peace-talk mission, the train was equipped with special communications equipment, including radio, wireless and a telephone switchboard. Originally intended for use as a "peace conference" train, it was relegated to the role of a U.N. dormitory when the Communists insisted that negotiations be held in Kaesong. The train could only go as far as Munsan because of a bomb-shattered bridge over the Imjin river, unrepaired when talks began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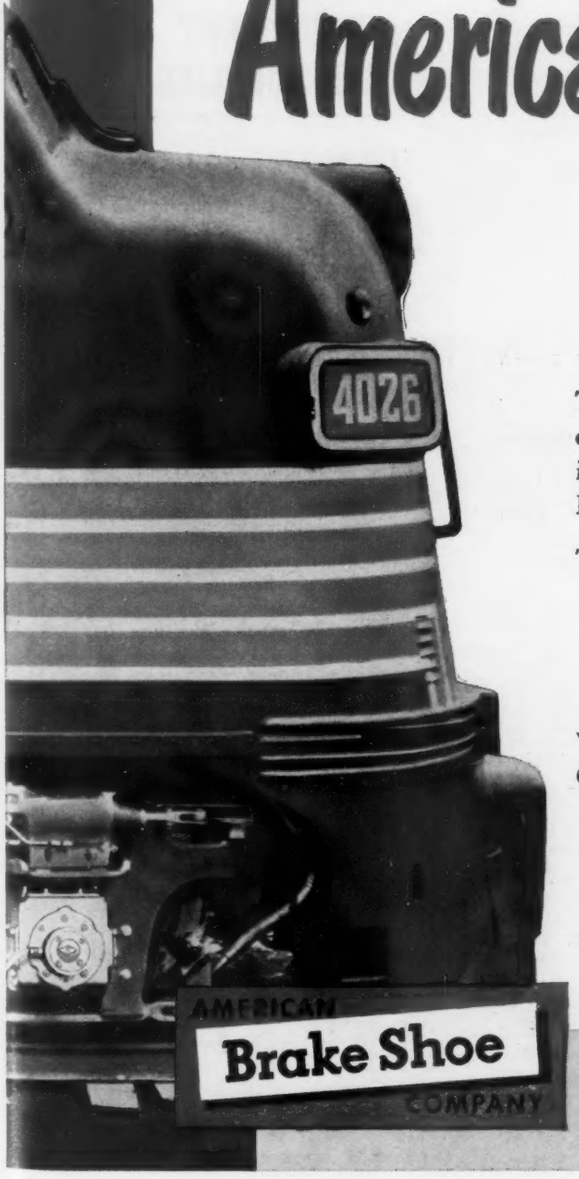

The American Brake Shoe Controller, proven through years of dependable service on high-speed passenger car equipment, is now adapted to give 3 in 1 wheel protection on Diesel Locomotives.

The American Brake Shoe 3 in 1 Controller:

(1) Detects and corrects spin promptly at all speeds.
(2) Detects and corrects sliding during braking.
(3) Detects and warns if wheels become locked.

Write today for full information. The American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

BRAKE SHOE AND CASTINGS DIVISION

9416

(Continued from page 61)
sulting engineer of the locomotive department of the Ingersoll Rand Company. From 1938 to 1940 he was engaged in railroad building for the New York World's Fair.

Ten More Roads Awarded Amortization Certificates

Certificates of necessity authorizing accelerated amortization of facilities for tax purposes were awarded to 10 railroads during the period July 27-August 3, according to an announcement by the Defense Production Authority. The certificates were issued by D.P.A., upon recommendation by the Defense Transport Administration.

Railroads receiving certificates, together with amounts involved, are listed below. The percentage figure shows in each case the proportion that can be written off in five years.

Atlanta & West Point, $510,750, 80 per cent.

Buffalo, Rochester & Pittsburgh, $208,090 (for maintenance facilities), 65 per cent.

Chicago, Indianapolis & Louisville, $9,900, 80 per cent.

Illinois Central, $459,750, 80 per cent.

Macon, Dublin & Savannah, $21,456, 65 per cent.

Minneapolis, St. Paul & Sault Ste. Marie, $431,760, 80 per cent; and $1,322,250, 65 per cent.

Missouri Pacific, $9,586,949 (for freight train cars), 80 per cent; and $1,459,360, 65 per cent.

Spokane, Portland & Seattle, $1,964,200 (for freight cars), 80 per cent.

Toledo, Peoria & Western, $230,500, 65 per cent.

Western of Alabama, $572,000 (for freight cars), 80 per cent.

CAR SURPLUSES, SHORTAGES

Average daily freight car surpluses and shortages for the week ended August 11 were announced by the Association of American Railroads on August 16 as follows:

	Surplus	Shortage
Plain Box	1,214	7,788
Auto Box	66	75
Total Box	1,280	7,863
Gondola	0	5,056
Hopper	0	4,167
Covered Hopper	0	55
Stock	1,176	148
Flat	0	928
Refrigerator	1,278	0
Other	224	108
Total	3,958	18,325

ORGANIZATIONS

A.S.T. & T. Announces Conference Program

The American Society of Traffic and Transportation has completed the program for its first annual conference and seminar, which convenes in Chicago September 13 and 14. The conference will be held at the Chicago campus of Northwestern University in connection with the latter's centennial celebration. The keynote address will be given by Delos W. Rentzel, undersecretary of commerce for transportation. The program follows:

THURSDAY, SEPTEMBER 13

9 *a. m.*

Registration

10 *a. m.*

Conference convenes with call to order by C. H. Vayo, president of the society and general traffic manager, Eastman Kodak Company.

Welcome by J. Roscoe Miller, president, Northwestern University.

Address by President Vayo.

Panel on "Transportation Revenues and Freight Claims"—Moderator: Robert J. Bayer, editor, Traffic World; Panel members: Arthur H. Schwietert, director of traffic, Chicago Association of Commerce & Industry and general chairman, National Management Committee for April Perfect Shipping Month; J. R. Matthews, chairman, National Freight Claim Council, American Trucking Associations, Inc.; and Heber Smith, chairman, Freight Claim Division, Association of American Railroads.

12 *Noon*

Luncheon, Abbott Hall, Northwestern University—Presiding: Stanley Berge, professor of transportation, Northwestern University; Toastmaster: Dr. G. Lloyd Wilson, chairman, Department of Transportation and Public Utilities, University of Pennsylvania; Speaker: Dr Weldon Gibson, Jr., chairman, Industrial and Economics Section, Stanford Research inst tute; Subject: "Function of Research in Transpo tation."

2 *p. m.*

Panel on "Carrier Rates and Services"—Moderator: Herschel A. Hollopeter, director of transportation, Indiana State Chamber of Commerce, Indianapolis; Panel Members: Robert S. Henry, vice-president, public relations, A. A. R.; Leland James, president, A. T. A., and president, Consolidated Freight Ways, Inc.; William G. Oliphant, general traffic manager, Federal Barge Lines; W. H. Johnston, Jr., secretary and assistant to president, American Airlines; and Earl B. Smith, vice-president, General Mills, Inc.

Following panel, a paper and discussion on "Traffic Education and Training in Great Britain," by W. H. Stebbings, examinations officer, Institute of Transport in Great Britain.

7:30 *p. m.*

Annual banquet, Grand Ballroom, Palmer House—Call to order by President Vayo; Presiding: Walter Mullady, conference chairman, and president, Decatur Cartage Company, Chicago; Toastmaster: E. G. Plowman, vice-president, traffic, United States Steel Company; Speaker: Delos W. Rentzel, undersecretary of commerce for transportation; Subject: "National Coordination of Transportation."

FRIDAY, SEPTEMBER 14

9:30 *a. m.*

Call to order by President Vayo.

Panel on "Transportation and National Defense"—Moderator: E. G. Plowman; Panel Members: Kenneth H. Vore, director, Military Traffic Service, Department of Defense; W. S. Rainville, Jr., executive assistant, Defense Transport Administration; Beatrice Aitchison, transportation economist, Bureau of Transport Economics and Statistics, Interstate Commerce Commission; and William E. Hayghe, director, Traffic Management Division, Federal Supply Services.

11:30 *a. m.*

Following the panel, a talk on "Education for Traffic Management" by E. C. Morgan, vice-president, Branch Motor Express Company, and national president, Delta Nu Alpha Transportation Fraternity.

12:30 *p. m.*

Luncheon, Red Lacquer Room, Palmer House, under auspices of Traffic Club of Chicago—Presiding: Arthur B. Murphey, president, Traffic Club of Chicago, and general freight agent, Chicago, Rock Island & Pacific; Toastmaster: J. R. Staley, vice-president, transportation, Quaker Oats Company; Speaker: Kenneth H. Burgess, attorney and president, Board of Trustees, Northwestern University.

3:00 *p. m.*

Annual meeting and election of officers of the American Society of Traffic and Transportation, followed by a meeting of the board of directors.

Joseph T. Mahaney, vice-president of the Missouri-Kansas-Texas, has been elected president of the **St. Louis Control** of the **Controllers Institute.** Also, John A. Tauer, comptroller of the Great Northern, has been elected vice-president of the **Twin Cities Control,** and Hugh J. Ward, assistant comptroller of the Pennsylvania, has been elected secretary of the **Philadelphia Control.**

I. L. Price, Jr., junior member of Price & Spivey, division counsel for the Central of Georgia, has been elected president of the **United States Junior Chamber of Commerce.**

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Denver & Rio Grande Western** has ordered 25 70-ton covered hopper cars from the Pullman-Standard Car Manufacturing Company, to cost approximately $182,500. Delivery of the cars, inquiry for which was reported in *Railway Age*, June 25, page 101, is expected in the third quarter of 1952.

The **Detroit, Toledo & Ironton** has ordered 100 70-ton covered hopper cars from the American Car & Foundry Co. Delivery of these cars, inquiry for which was reported in *Railway Age*, June 18, page 67, is scheduled for the third quarter of 1952.

The **Grand Trunk Western** has ordered 350 50-ton box cars and 250 70-ton triple hopper cars from the American Car & Foundry Co. The box cars will cost an estimated $2,257,000 and the hopper cars approximately $1,528,000. Delivery is expected during the late summer of 1952.

The **Macon, Dublin & Savannah** has ordered two cabooses from the International Railway Car & Equipment Manufacturing Co., at an estimated cost of $23,200. Delivery is expected during the last quarter of this year.

The **Tennessee Central** has ordered 200 50-ton hopper cars from the Pullman-Standard Car Manufacturing Company, at a cost of approximately $980,000. Delivery is scheduled for the summer of 1952. Inquiry for

(Continued on page 69)

On remodeled coaches . . . as on the newest luxury trains—

it's NP automatic END DOOR OPERATORS

Today, more than ever before, the operation of end doors on passenger coaches everywhere is easier, quicker, *safer.*

For literally dozens of important railroads have made it standard practice to install NP Automatic End Door Operators not only on new cars, but also on all reconditioned cars.

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WORLD'S LARGEST MANUFACTURER OF DOOR CONTROL AND SAFETY EQUIPMENT

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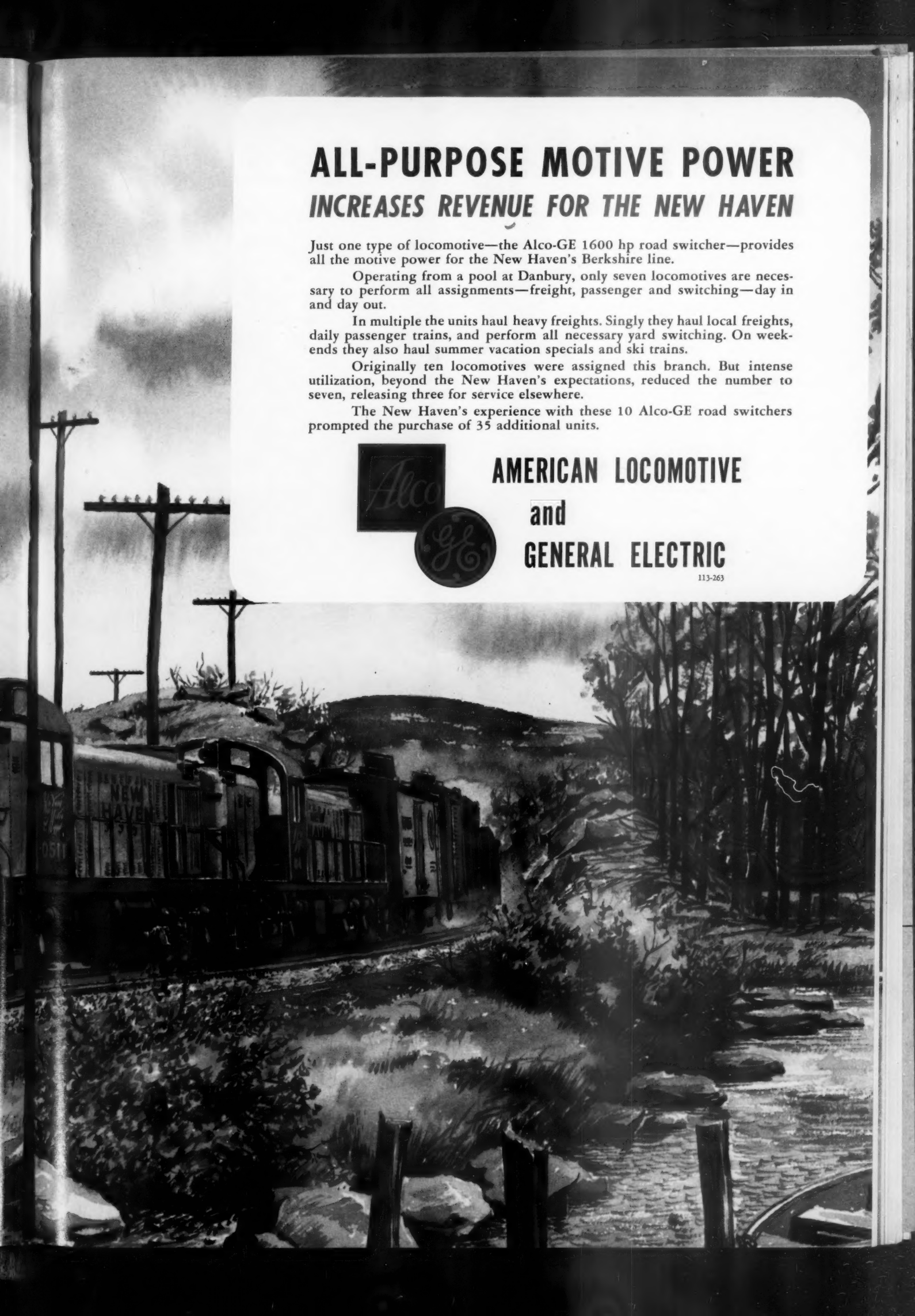

ALL-PURPOSE MOTIVE POWER

INCREASES REVENUE FOR THE NEW HAVEN

Just one type of locomotive—the Alco-GE 1600 hp road switcher—provides all the motive power for the New Haven's Berkshire line.

Operating from a pool at Danbury, only seven locomotives are necessary to perform all assignments—freight, passenger and switching—day in and day out.

In multiple the units haul heavy freights. Singly they haul local freights, daily passenger trains, and perform all necessary yard switching. On weekends they also haul summer vacation specials and ski trains.

Originally ten locomotives were assigned this branch. But intense utilization, beyond the New Haven's expectations, reduced the number to seven, releasing three for service elsewhere.

The New Haven's experience with these 10 Alco-GE road switchers prompted the purchase of 35 additional units.

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and
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NEW HOIST CLUTCHES. Roller-bearing mounted wide-faced drums. Air-operated cylinder, mounted within the drum itself . . . provides high line pull and easy adjustment.

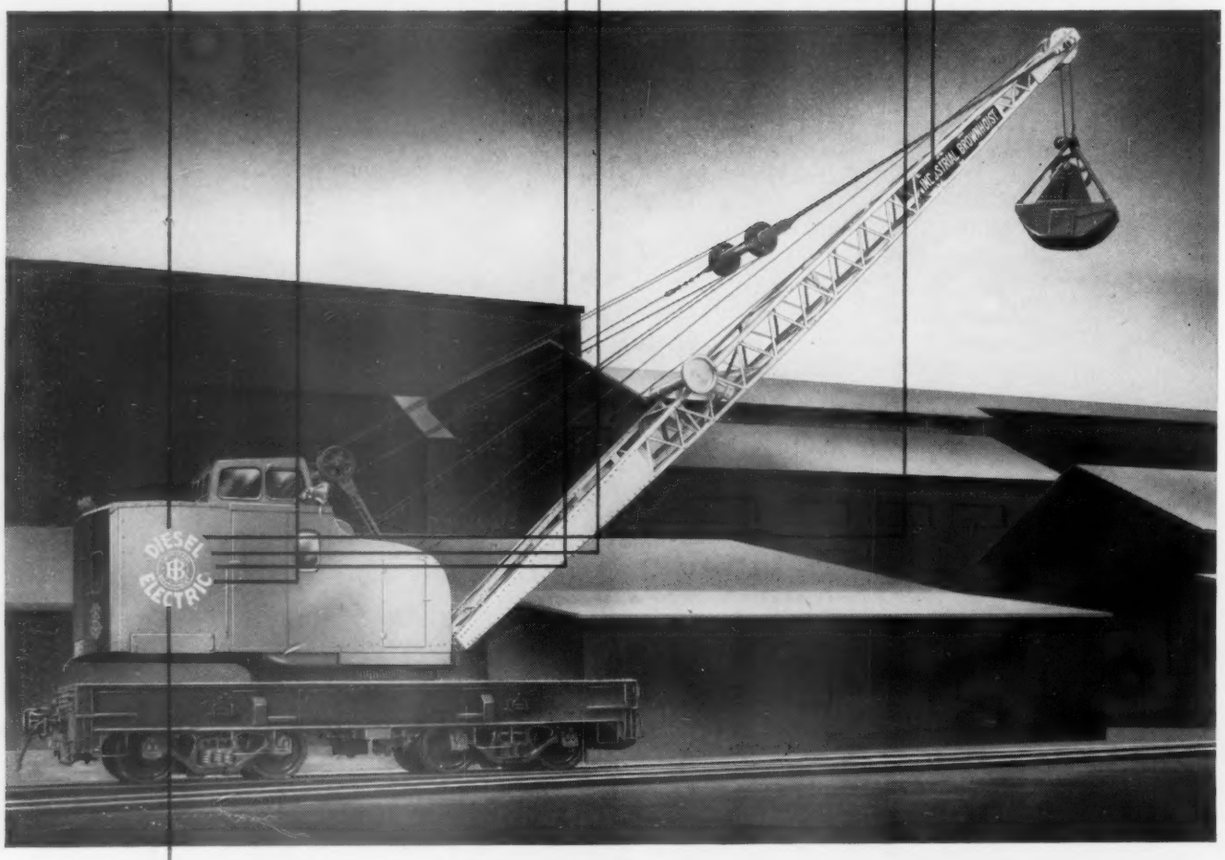
ELECTRIC ROTATION together with electric travel reduces maintenance to a minimum.

NEW FRICTION CLUTCH BOOM HOIST. Safe! Driven by worm and wheel enclosed in oil bath. Twin-barrelled, extra large diameter boom-hoist drums in full view of operator. Drums take all line in one layer which eliminates overlapping and fraying of rope.

DYNAMATIC CLUTCH between engine and crane machinery now standard equipment. Gives smooth, sensitive, 32 step control. Banishes slippage. Eliminates torsional impulse and vibration.

NEWLY DESIGNED, EXTRA HEAVY STREAMLINED CAB with controls functionally located for operating efficiency. All machinery guarded against weather, yet readily accessible.

NEW CLEAR-VISION BOOM provides maximum vision for greater working efficiency. This open type boom in conjunction with the Brownhoist patented Monitor-type cab guarantees 360° visibility.



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and these optional features—8 wheel chain drive for increased drawbar pull. Twin engine drive for work on extreme grades or where greater tractive effort is required. Timken roller bearing journals for low starting tractive effort. For complete description write to . . .

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INDUSTRIAL BROWNHOIST CORPORATION, BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Pittsburgh, Cleveland, San Francisco, Chicago, Canadian Brownhoist Ltd., Montreal, Quebec. AGENCIES: Detroit, Birmingham, Houston, Los Angeles.

(Continued from page 64)
these cars and 150 70-ton hoppers was reported in *Railway Age*, June 4, page 84.

SIGNALING

The General Railway Signal Company has received orders for 45 sets of intermittent inductive train control equipment. The American Locomotive Company has ordered 27 sets for installation on **New York Central** switching diesels. The Baldwin-Lima-Hamilton Corporation has ordered 18 sets for installation on **New York Central** freight diesels.

Pittsburgh & Lake Erie.—See Construction columns.

The **Richmond, Fredericksburg & Potomac** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to convert wayside signaling to handle coded continuous cab signaling, with either-direction running, on 20 miles of double track between GN tower and Doswell, Va. The order includes coded track circuit apparatus, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

The **Southern** has ordered equipment from the General Railway Signal Company for installation of a relay interlocking at Spartanburg, S. C. The control machine will have 10 track lights and 8 levers for control of four switch machines, one switch lock, and 12 signals. Included in this order are type K relays and model 5C switch machines.

SUPPLY TRADE

H. Alexander Salm has assumed supervision of **Mandel Brothers'** transportation division for the supply of carpets, linens, furniture and decorative accessories.

L. F. Bross has been appointed manager of the rail and track fastenings department of **Robert W. Hunt Company, Engineers,** succeeding **A. A. Bareuther,** who is on leave of absence due to ill health.

The **Pennsylvania Salt Manufacturing Company** has opened a district sales office at 1618 Irwin-Keasler building, Dallas, Tex. The new office will be sales and service headquarters for Texas and Oklahoma and will be headed by **Hugh W. Temple,** district sales manager.

The **Irving Subway Grating Company,** of Long Island City, N. Y., and Oakland, Cal., has appointed **Guilford S. Turner, Inc.,** Chicago, as national sales representative for freight cars and locomotives.

John P. Kelleher, who has been appointed assistant sales manager of the Chicago works of the National Malleable & Steel Castings Co. Mr. Kelleher joined the company in 1941 and worked in the cost and accounting department until 1943. He has been on the staff of the Chicago sales department since that time

The National Brake Company, 30 Church Street, New York 7, has announced the appointment of the St. Louis Railway Supply Company as its

representative in the railroad district centered in St. Louis. The account will be serviced by Frank E. Ross, Jr. (above), and Robert M. Close (below)

Stephen P. Murphy has been appointed assistant to the president, a newly-created post, of the **Matisa Equipment Corporation,** with headquarters at Chicago.

E. W. Ball, railroad sales engineer of the **Esso Standard Oil Company,** has been appointed assistant manager of the railroad sales division.

OBITUARY

Frank E. Bloss, 81, retired assistant secretary of the American Car & Foundry Co., died on August 12, at his home in Roselle, N. J.

CONSTRUCTION

Pennsylvania to Build $8-Million Ore Pier

As briefly reported on page 8 of last week's *Railway Age*, the Pennsylvania will begin work before the end of the year on a modern iron ore unloading pier on the Delaware river in Philadelphia. Contracts have already been awarded for the unloading machinery.

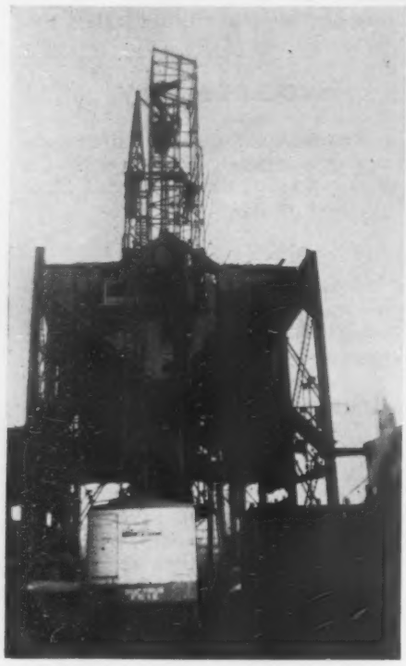
In making the announcement, Walter S. Franklin, P.R.R. president, said the pier, with its supporting equipment, tracks and yard will be one of the largest tidewater ore unloading facilities in the country, with a rated capacity of 2,400 tons per hour. It will cost $8,000,000. "It is planned to complete the new pier in the summer of 1953," Mr. Franklin said, "and imported ore will then be unloaded from the largest ocean vessels, by the most modern equipment, for transshipment to railroad cars for movement to steel mills."

To be located immediately north of the railroad's coal dumping pier at Greenwich Point, the ore pier will be equipped initially to unload two ships at once, with provision to expand capacity ultimately to handle four ships simultaneously.

"New sources of iron ore are being developed in Venezuela, Brazil, Chile, Liberia and Labrador by and for the steel industry in this country," Mr. Franklin added, "and it is certain that ore imports will increase steadily, under the impetus of the defense program, as the new sources come into production. Our present ship-to-rail unloading facilities in Philadelphia, at Girard Point, are inadequate for the anticipated flow, so we are moving ahead now to provide facilities required adequately to serve the steel industry, and all other industries dependent on steel. By building into the pier provision for doubling its capacity on short notice, we will be pre-

(Continued on page 72)

We took down an old, large coaling plant (using acetylene torches) which had been built by others in Chicago for the Baltimore and Ohio Chicago Terminal Railroad, at Lincoln Street. See below.



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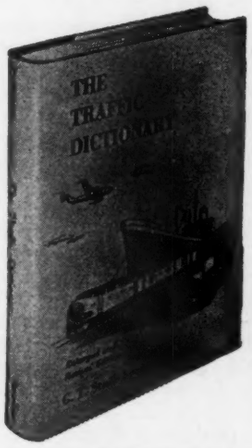

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Manager, Transportation Research, Remington-Rand

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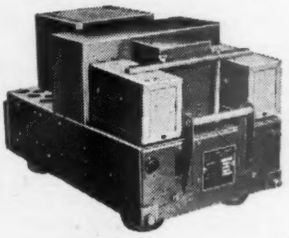

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(Continued from page 69)
pared to meet every need that may arise in the foreseeable future."

The pier structure will be built of concrete at a cost of $1,800,000 and will extend 850 feet into the Delaware. It will be equipped with two electric unloading cranes, costing $1,700,000, which will use buckets of 17 tons capacity to unload ore from ships moored on each side of the pier. The bucket will drop the mineral directly onto moving belts 54 inches wide and extending 1,600 feet along the pier and ashore to a 500-ton capacity elevated hopper. Empty cars will be pushed under the hopper on two railroad tracks for loading by gravity flow, and then will be shunted to a new classification yard to be made up into trains for direct movement to the mills.

Mr. Franklin pointed out that location of the ore pier adjacent to the present coal dumper "provides an ideally efficient operation." Hopper cars arriving at the coal dumper, loaded with fuel for barge delivery or shipment by sea, now return to the mines empty. When the ore pier is completed the empty cars will be shunted directly from the coal dumper and reloaded with ore for movement to steel producing areas, which generally are near the coal mines. Thus, cars will haul coal in one direction and ore in the other.

He added that the project involves expenditure of about $3,000,000 for moving belts and hopper, and supporting shops, machines, tools and power facilities. Railroad track changes in the pier area will cost about $1,000,000 and dredging the river to admit deep-draft vessels to the pier will cost $500,000.

Causeway Considered For Strait of Canso

The Canadian federal government is presently studying an engineering report recommending construction of a railway-highway causeway to link the mainland of Nova Scotia with the island of Cape Breton, across the Strait on Canso.

The causeway, which would take the place of a low-level bridge previously recommended (*Railway Age*, July 9, 1949, page 102), is now said to be "the only sensible solution to the problem of long term provision for strait traffic." To enlarge and modernize the present ferry service, it is estimated, would cost a total of nearly $15 million, as compared with nearly $23 million for the causeway, but the latter "would be a permanent solution of the problem." The estimated cost of the causeway would include approximately $3.5 million for relocation of Canadian National line between Halifax, N. S., and Truro, and Sydney on Cape Breton Island, which is the center of a considerable steel and coal industry.

The causeway would be a little less than a mile long. It would be built entirely of rock placed by dump trucks working from west to east, with the final Cape Breton terminus being at Balache Point. A lock with dimensions comparable to those in the Welland ship canal would be placed near the Cape Breton end of the causeway, to accommodate the approximately 300 ships which pass through the strait each year. The maximum depth of the strait at the proposed point of crossing is about 185 ft., and the average depth is a little under 150 ft., but strong tidal currents through the strait from the Gulf of St. Lawrence on the north and west, to the Atlantic on the south and east, would present a construction problem in any type of permanent crossing.

P. & L. E. Plans Yard and Signal Improvements

Extensive improvements will be made on the Pittsburgh & Lake Erie "to provide more efficient service," Curtis M. Yohe, vice-president of the New York Central System affiliate, announced at Cleveland on August 13.

Among major improvements will be installation of centralized track control over a 13.4-mile segment of the railroad and the rebuilding of the westbound yards at McKees Rocks, Pa.

C.T.C. between Neville (near McKees Rocks) and West Economy will permit the P.&L.E. to make a number of improvements in its track construction. One of the four main tracks between the two points will be removed and other tracks relocated to provide a better roadbed and improved drainage. The track to be removed is the one farthest from the river, which at many places is extremely close to the steep hillside.

The center of the remaining three main tracks will have signals so traffic can move in either direction. These, plus the close control over trains provided by C.T.C., will result in more efficient operation. Existing interlocking plants will be modified to provide maximum use of tracks and operation of this section will be controlled by operators at Neville.

At McKees Rocks, the westbound yard has five receiving and five departing tracks, plus 20 classification tracks. Switching now is performed by the hump method. Under the improvement program, the hump will be eliminated and the track and track scale relocated. About 17,000 cubic yards of earth under the hump will be excavated. The relocation and change in switching methods will provide for faster and safer classification of trains.

In conjunction with the track changes, a centralized office building will be constructed for car inspectors and yardmaster forces.

Canadian National. — Another C. N. branch line is now under consideration, this one in British Columbia, to facilitate the huge development of the Aluminum Company of Canada, at Kitimat. This industrial scheme contemplates the ultimate expenditure of over half a billion dollars, and if a rail line can be put in it is estimated aluminum production at Kitimat, 400 miles north of Vancouver, will commence in three years. Canadian National officials say they have been approached by the Aluminum Company about building a line and discussions between the company and the railway have led to the latter putting in survey parties to explore the best location for such a line. Present indications are that actual construction could not begin before next summer, assuming the railway decides on a route. The termini of the new branch would be at Terrace, approximately 95 miles east of Prince Rupert, B.C., on the C.N.'s Jasper-Prince Rupert main line, and Kitimat.

Chicago, Rock Island & Pacific.—In connection with relocating its main line between Atlantic, Iowa, and Council Bluffs, this road will construct approximately 33.8 miles of new line between Atlantic and McClelland. It will also construct a connecting track at McClelland, so as to permit the use of the Chicago Great Western's line from that point to Council Blugs. Acquisition of trackage rights over the C.G.W., as well as the construction, has received I.C.C. approval. Total cost of the new construction, including some rehabilitation of the Great Western segment, is estimated at $17,453,554. This project is a part of the Rock Island's long-term plan of line and grade revision, and the new line will reduce grades and curves, as well as shorten the track mileage, between Atlantic and Council Bluffs. When the new line is completed, the road will abandon a total of 41 miles of existing trackage in the area.

New York Central.—This road, in a joint application with the Cleveland, Cincinnati, Chicago & St. Louis, has asked the I.C.C. for authority to construct an 11.2-mile line between Karnak, Ill., and Joppa. The latter road would construct the segment, comprising an extension to existing lines, and the N.Y.C. would operate. Estimated total cost of the line, including supporting yard and facilites, is $1,400,000. The segment would permit the N.Y.C. to provide additional rail service to a new steam electric plant being constructed at Joppa. Across the river from Joppa, at Chiles, Ky., the Tennessee Valley Authority is constructing a similar steam generating plant. Each of the new plants is expected to require about 6,500 tons of coal per day.

New York, Chicago & St. Louis.—This road has asked the I.C.C. for

(Continued on page 75)

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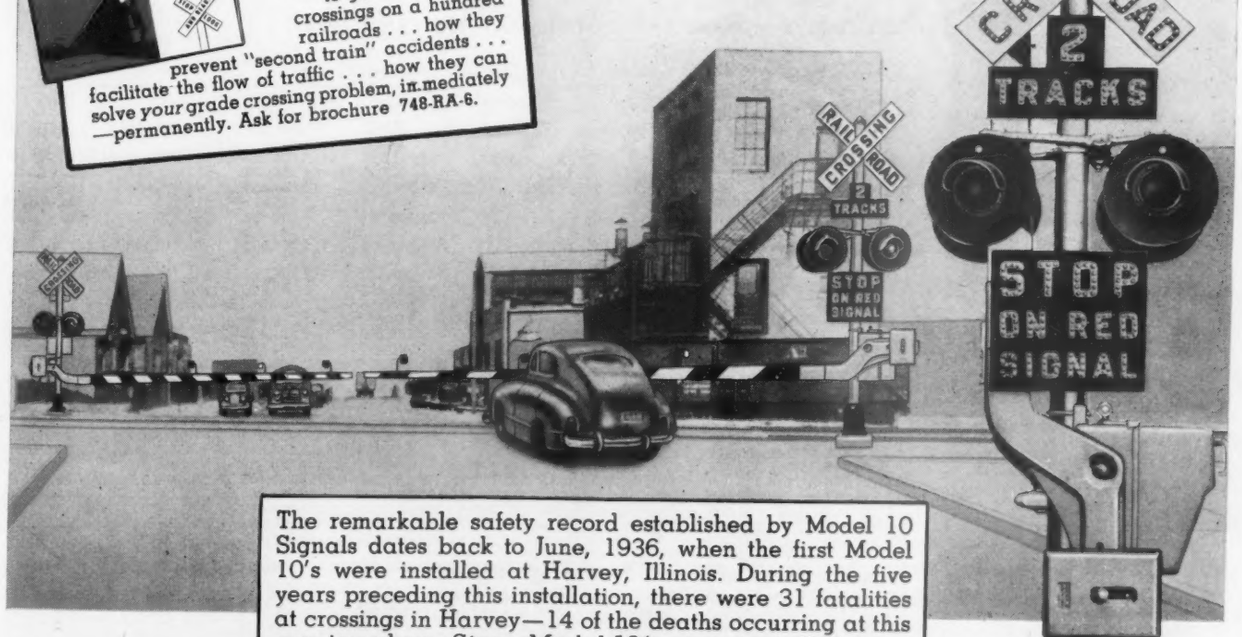

The remarkable safety record established by Model 10 Signals dates back to June, 1936, when the first Model 10's were installed at Harvey, Illinois. During the five years preceding this installation, there were 31 fatalities at crossings in Harvey—14 of the deaths occurring at this crossing alone. *Since Model 10's were installed here, not a single accident has occurred.*

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OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

Compiled from 127 monthly reports of revenues and expenses representing 131 Class I steam railways

(Switching and Terminal Companies Not Included)

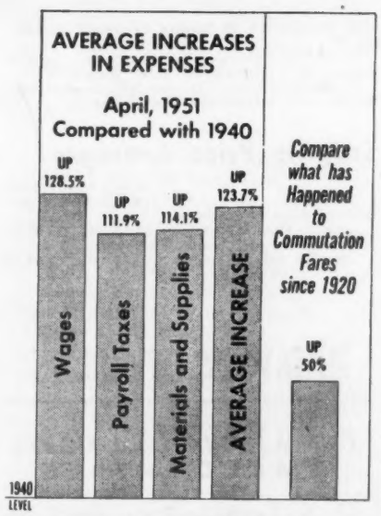
FOR THE MONTH OF MAY 1951 AND 1950

Item	United States		Eastern District		Southern District		Western District	
	1951	1950	1951	1950	1951	1950	1951	1950
Miles of road operated at close of month	225,914	226,464	53,274	53,348	45,957	46,110	126,683	127,006
Revenues:								
Freight	$752,588,251	$634,747,481	$277,315,077	$234,950,477	$157,509,842	$135,249,207	$317,763,332	$264,547,797
Passenger	70,657,088	56,800,730	35,875,545	30,724,714	10,742,098	7,957,889	24,039,445	18,118,127
Mail	20,280,835	17,899,053	7,886,027	6,149,823	3,217,066	3,333,467	9,177,742	8,415,763
Express	7,768,099	6,049,346	2,978,936	1,642,620	1,178,643	970,612	3,610,520	3,436,114
All other operating revenues	37,421,655	29,909,811	16,972,956	12,930,023	6,516,142	5,171,628	13,932,557	11,808,160
Railway operating revenues	888,715,928	745,406,421	341,028,541	286,397,657	179,163,791	152,682,803	368,523,596	306,325,961
Expenses:								
Maintenance of way and structures	134,671,042	112,747,729	48,445,118	38,873,123	27,068,880	23,346,796	59,157,044	50,527,810
Depreciation	11,152,072	10,839,386	4,608,020	4,517,202	2,062,510	1,964,326	4,481,542	4,357,858
Retirements	1,761,848	1,448,204	597,173	761,621	154,969	194,305	1,009,706	492,278
Deferred maintenance	*182,584	*64,618	*169,064	.....	*13,521	*59,265	1	*5,353
Amortization of defense projects	132,129	151,739	14,231	15,858	30,561	46,339	87,337	89,542
Equalization	*1,934,203	*5,852,925	*414,129	*2,955,375	*780,747	*619,874	*739,327	*2,277,676
All other	123,741,780	106,225,943	43,808,887	36,533,817	25,615,108	21,820,965	54,317,785	47,871,161
Maintenance of equipment	169,054,253	139,573,371	69,644,965	58,298,320	34,566,726	27,826,107	64,842,562	53,448,944
Depreciation	25,340,536	24,712,658	9,001,188	9,265,715	5,725,161	5,532,320	10,614,187	9,914,623
Retirements	*209,058	*46,476	*199,006	*5,360	*3,111	*26,085	*6,941	*15,031
Deferred maintenance and major repairs	*924,028	*123,979	*905,130	*74,594	*1,897	*3,426	*17,001	*45,959
Amortization of defense projects	4,183,261	1,217,300	1,595,453	451,449	1,342,441	234,034	1,245,367	531,817
Equalization	808,787	173,444	38,931	25,732	99,760	27,603	670,066	120,109
All other	139,854,785	113,640,424	60,113,529	48,635,378	27,404,372	22,061,661	52,336,884	42,943,385
Traffic	18,010,767	16,073,122	6,020,276	5,425,363	3,752,158	3,381,711	8,238,333	7,266,048
Transportation—Rail line	336,169,295	281,186,099	140,595,224	118,375,794	61,200,965	51,955,603	134,373,106	110,854,702
Miscellaneous operations	9,943,631	8,248,908	3,390,325	2,919,577	1,561,950	1,267,241	4,991,356	4,062,090
General	25,953,510	22,737,395	9,704,277	8,585,027	5,517,870	4,865,411	10,731,363	9,286,957
Railway operating expenses	693,802,498	580,566,624	277,800,185	232,477,204	133,668,549	112,642,869	282,333,764	235,446,551
Net revenue from railway operations	194,913,430	164,839,797	63,228,356	53,920,453	45,495,242	40,039,934	86,189,832	70,879,410
Railway tax accruals	102,888,968	80,705,675	31,596,250	28,688,921	25,484,580	20,003,375	45,808,138	32,013,379
Pay-roll taxes	24,664,996	21,685,458	9,985,953	8,841,727	4,780,394	4,174,342	9,898,649	8,669,389
Federal income taxes†	48,373,379	31,473,588	10,974,936	10,127,631	14,705,827	9,926,460	22,692,616	11,419,497
All other taxes	29,850,593	27,546,629	10,635,361	9,719,563	5,998,359	5,902,573	13,216,873	11,924,493
Railway operating income	92,024,462	84,134,122	31,632,106	25,231,532	20,010,662	20,036,559	40,381,694	38,866,031
Equipment rents—Dr. balance	13,476,462	13,754,375	5,152,847	7,657,981	543,141	*1,316,875	7,780,474	7,413,269
Joint facility rent—Dr. balance	3,611,425	3,307,200	1,776,268	1,556,513	484,847	501,232	1,350,310	1,249,455
Net railway operating income	74,936,575	67,072,547	24,702,991	16,017,038	18,982,674	20,852,202	31,250,910	30,203,307
Ratio of expenses to revenues (percent)	78.1	77.9	81.5	81.2	74.6	73.8	76.6	76.9

FOR THE FIVE MONTHS ENDED WITH MAY 1951 AND 1950

Item	United States		Eastern District		Southern District		Western District	
	1951	1950	1951	1950	1951	1950	1951	1950
Miles of road operated at close of month	225,998	226,576	53,299	53,367	45,957	46,139	126,742	127,070
Revenues:								
Freight	$3,525,493,636	$2,886,394,148	$1,303,781,453	$1,084,478,687	$752,711,340	$617,124,513	$1,469,000,843	$1,184,790,948
Passenger	349,982,443	304,481,411	177,215,853	163,674,868	59,129,003	50,004,203	113,637,587	90,802,340
Mail	100,295,398	89,368,464	38,937,529	32,452,327	16,552,213	15,824,063	44,805,656	41,092,074
Express	30,767,110	25,925,618	9,508,447	7,233,479	5,693,919	5,486,011	15,564,744	13,206,128
All other operating revenues	173,584,667	138,355,245	78,343,068	61,449,790	31,308,021	24,338,062	63,933,578	52,567,393
Railway operating revenues	4,180,123,254	3,444,524,886	1,607,786,350	1,349,289,151	865,394,496	712,776,852	1,706,942,408	1,382,458,883
Expenses:								
Maintenance of way and structures	587,091,759	491,253,613	209,087,878	168,963,973	131,298,402	108,126,746	246,705,479	214,162,894
Depreciation	55,604,033	53,958,258	22,984,937	22,532,481	10,298,298	9,709,575	22,320,798	21,716,202
Retirements	5,969,282	4,473,683	2,049,334	1,612,728	693,755	929,515	3,226,193	1,931,440
Deferred maintenance	*935,594	*1,058,911	*915,600	*800,000	*19,995	*92,080	1	*166,831
Amortization of defense projects	698,196	758,166	65,967	89,670	164,883	231,822	467,346	436,674
Equalization	13,541,892	9,819,526	6,066,654	5,082,744	5,772,097	5,104,824	1,703,141	*368,042
All other	512,213,950	423,302,891	178,836,586	140,446,350	114,389,364	92,243,090	218,988,000	190,613,451
Maintenance of equipment	816,238,677	666,924,996	341,731,088	275,397,573	161,961,689	131,209,560	312,545,900	260,317,863
Depreciation	127,032,024	121,180,650	45,873,457	44,863,014	28,700,080	27,267,653	52,458,487	49,049,983
Retirements	*1,394,772	*214,563	*868,111	*27,062	*374,973	*103,292	*151,688	*84,209
Deferred maintenance and major repairs	*10,059,248	*8,666,159	*9,939,097	*8,383,804	*10,593	*24,879	*109,558	*257,476
Amortization of defense projects	15,245,385	6,106,947	5,325,277	2,257,505	3,172,960	1,188,045	6,747,148	2,661,397
Equalization	*292,486	292,512	18,142	145,153	1,188,715	1,088,428	*1,499,343	*941,069
All other	685,707,774	548,225,609	301,321,420	236,542,767	129,285,500	101,793,605	255,100,854	209,889,237
Traffic	87,399,017	79,285,560	29,158,996	26,784,356	18,511,299	16,671,069	39,728,722	35,830,135
Transportation—Rail line	1,631,020,689	1,372,933,868	691,366,639	584,768,284	299,267,378	254,998,417	640,386,672	533,167,167
Miscellaneous operations	50,021,783	43,203,197	17,701,796	16,016,477	8,223,398	6,987,662	24,096,589	20,199,058
General	125,849,546	111,777,380	48,108,247	43,042,003	26,942,357	23,797,040	50,798,942	44,938,337
Railway operating expenses	3,297,621,471	2,765,378,614	1,337,154,644	1,114,972,666	646,204,523	541,790,494	1,314,262,304	1,108,615,454
Net revenue from railway operations	882,501,783	679,146,272	270,631,706	234,316,485	219,189,973	170,986,358	392,680,104	273,843,429
Railway tax accruals	476,980,422	353,765,743	143,940,754	121,634,148	119,705,185	86,252,754	213,334,485	145,878,841
Pay-roll taxes	117,894,125	103,013,418	48,542,408	42,054,663	22,738,609	19,718,927	46,613,108	41,239,828
Federal income taxes†	213,531,256	116,054,693	43,120,629	31,219,610	65,921,416	37,424,074	104,489,211	47,411,009
All other taxes	145,555,041	134,697,632	52,277,717	48,359,875	31,045,158	29,109,753	62,232,166	57,228,004
Railway operating income	405,521,361	325,380,529	126,690,952	112,682,337	99,484,790	84,733,604	179,345,619	127,964,588
Equipment rents—Dr. balance	65,935,394	56,037,973	29,833,670	26,105,138	456,650	*2,431,705	35,645,074	32,364,540
Joint facility rent—Dr. balance	18,100,319	16,231,665	8,697,890	7,587,508	2,545,554	2,595,624	6,856,875	6,048,533
Net railway operating income	321,485,648	253,110,891	88,159,392	78,989,691	96,482,586	84,569,685	136,843,670	89,551,515
Ratio of expenses to revenues (percent)	78.9	80.3	83.2	82.6	74.7	76.0	77.0	80.2

†Includes income tax, surtax and excess profits tax.
*Decrease, deficit, or other reverse item.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.



THIS GRAPH WAS USED by the Pennsylvania in a folder distributed to its commuters to explain the reasons for the application which it and other eastern railroads have filed for increases in weekly and monthly commutation fares. Originally scheduled to become effective August 10 (*Railway Age*, July 16, page 34), the increase has now been suspended by the Interstate Commerce Commission pending investigation

(Continued from page 72)
authority to relocate a part of its main line at Muncie, Ind. It would involve the construction of approximately 5,371 feet of new trackage, abandonment of approximately 4,766 feet, and acquisition of half-interest in a 1,174-foot segment of the Chesapeake & Ohio. The relocated track would eliminate slow speed restrictions. State authorities cooperating in the project would construct the new trackage, including a bridge over the White river.

OVERSEAS

Pakistan.—A signaling specialist from the General Railway Signal Company will go to this country for six months to analyze and make recommendations for improvement of signaling and traffic control systems on the Pakistan Railway.

The Office of International Trade of the Department of Commerce announced on August 3 that a contract had been signed with G.R.S. under the Point IV program. The G.R.S. specialist, as yet unnamed, will leave for Pakistan "as promptly as possible."

Spain.—The Export-Import Bank of Washington, D. C., has granted a credit of $7,500,000 to the Spanish National Railways to help finance reconstruction and rehabilitation, allocating up to $1,300,000 for rails and accessories, up to $1,200,000 for signaling equipment, and up to $5,000,000 for electric locomotives and substation equipment.

FINANCIAL

Chicago & Western Indiana.—*Authority to Pledge Bonds.*—Division 4 of the I.C.C. has authorized this road to use $780,000 of its first and refunding mortgage bonds, series D, as security for short-term notes. The authorization is for a two-year period, beginning August 16, 1951. The road has indicated that it will increase an existing note from $450,000 to $622,820, and will use the proceeds for additions and betterments.

Fort Worth & Denver City.—*Change of Name.*—By a charter amendment approved by the secretary of the state of Texas, this company's corporate name was changed on August 7 to "Fort Worth & Denver Railway Company." No change in ownership, management or operation of the property was made.

New Securities

Application has been filed with the I.C.C. by:

MISSOURI-KANSAS-TEXAS.—To assume liability for $1,500,000 of equipment trust certificates to finance in part 13 diesel-electric locomotives costing an estimated $1,875,000. The M.-K.-T. will purchase five 1,600-hp. road-switchers from the American Locomotive Company at $145,260 each; and eight 1,500-hp. road-switchers from the Electro-Motive Division of General Motors Corporation at $144,991 each. The new certificates, to be dated September 15, would mature in 30 semiannual installments of $50,00 each, beginning March 15, 1952. They would be sold on the basis of competitive bids, with the interest rate to be set by such bids.

Division 4 of the I.C.C. has **authorized:**

CENTRAL OF NEW JERSEY-CENTRAL OF PENNSYLVANIA.—To assume liability jointly for $2,745,000 of series A equipment trust certificates to finance in part the acquisition by the Pennsylvania company of 22 diesel-electric locomotives. Total cost of the locomotives is estimated at $3,437,000. (*Railway Age*, July 9, page 120.) The commission's report approved sale of the certificates, with a 3 per cent interest rate, at 99.046—the bid of Halsey Stuart & Co. and two associates. The certificates, dated August 1, will mature in 15 annual installments of $183,000 each, beginning August 1, 1952. The certificates were reoffered to the public at prices yielding from 2.5 to 3.125 per cent, according to maturity.

Dividends Declared

Chicago, Rock Island & Pacific.—common, 75¢; preferred, $1.25, both payable September 29 to holders of record September 13.

Delaware & Bound Brook.—50¢, quarterly, payable August 20 to holders of record August 13.

Kansas City Southern.—common, $1.25, payable September 15 to holders of record August 31; 4% non-cumulative preferred, $1, quarterly, payable October 15 to holders of record September 29.

North Pennsylvania.—$1, quarterly, payable August 25 to holders of record August 18.

Pittsburgh & West Virginia.—50¢, payable September 14 to holders of record August 20.

Security Price Averages

	Aug. 14	Prev. Week	Last year
Average price of 20 representative railway stocks	53.16	54.60	46.25
Average price of 20 representative railway bonds	92.15	92.37	95.59

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RAILWAY OFFICERS

FINANCIAL, LEGAL & ACCOUNTING

J. G. Corn, assistant general auditor of the TEXAS & PACIFIC, has been appointed senior assistant general auditor, to succeed the late **H. A. Phillips.**

OPERATING

J. R. Ebert, assistant superintendent of the Mahoning division of the ERIE, has been appointed acting superintendent of that division, with headquarters as before at Youngstown, Ohio, succeeding **V. J. McMullen,** who has been granted a leave of absence because of illness. **J. G. Ainey,** trainmaster of the Susquehanna division at Hornell, N. Y., has been transferred to the Meadville division at Meadville, Pa., succeeding **F. E. Navin,** who has been promoted to assistant superintendent of the Mahoning division. **H. E. Joyce,** inspector of operation of the Western district, has been appointed trainmaster of the Susequehanna division at Hornell.

L. M. Olson has resumed his duties as assistant general manager, Northern district, Western Lines, of the ATCHISON, TOPEKA & SANTA FE, with headquarters at La Junta, Colo., while **E. E. Foulks** has returned to his former post as superintendent of transportation at Chicago.

J. H. Sweet, superintendent of the ROCK ISLAND SOUTHERN, at Rock Island, Ill., has retired.

The CHICAGO, ROCK ISLAND & PACIFIC has announced the transfer of **F. R. Weston,** superintendent of the Rock Island-Frisco terminal and terminal agent for the Rock Island at St. Louis to the Cedar Rapids division at Cedar Rapids, Iowa, and the appointment of **David Berman,** formerly superintendent at Cedar Rapids, as his successor.

TRAFFIC

Charles R. Warren, industrial commissioner of the CHESAPEAKE &

OHIO at Huntington, W. Va., has been appointed general industrial commissioner at Cleveland, succeeding **Charles H. Slayman,** who has resigned.

Robert W. Leedy, division freight agent of the PENNSYLVANIA at Columbus, Ohio, has been appointed assistant general freight agent at Philadelphia, succeeding the late **G. R. Richardson. George A. Shaffer,** division freight agent at Washington, has been transferred to Philadelphia, succeeding **C. J. Quinn,** who has been appointed division freight agent, special duty, in the office of the freight traffic manager. **James M. C. Collins,** district freight agent at Canton, Ohio, has been appointed division freight agent at Norfolk, succeeding **William F. Hoagland,** who replaces Mr. Shaffer at Washington.

MECHANICAL

George Charles Hoey has been appointed mechanical engineer of the BESSEMER & LAKE ERIE at Greenville, Pa., as reported in *Railway Age* August 13. Mr. Hoey was born on April 4, 1894, at Richmond, Ind., and attended Purdue University (B.S. in Railway M.E., 1916). He entered railroad service on July 1, 1916, with the Santa Fe at Argentine, Kan., as special machinist apprentice, which position he held until May 1918, when he joined the 60th Railway Engineers, United States Army. In September 1919 Mr. Hoey returned to his former position with the Santa Fe and subsequently served as machinist, motive power inspector, apprentice instructor and roundhouse foreman. From July to December 1921 he was tool designer at the Indiana Tool Company, Richmond, Ind. Mr. Hoey joined the B. & L.E. at Greenville in January 1922 as draftsman and in February 1946 became assistant mechanical engineer, which position he held until his recent appointment.

PURCHASES & STORES

L. J. Ahlering, purchasing officer of the CHICAGO & EASTERN ILLINOIS, has been appointed chairman of the Western Regional Purchasing Group of the ASSOCIATION OF AMERICAN RAILROADS for the 1951-1952 period.

H. E. Worts, who was recently appointed general storekeeper of the MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE at Minneapolis (*Railway Age,* July 23), has been assigned also to a similar post on the DULUTH, SOUTH SHORE & ATLANTIC. **C. F. Bucklin,** storekeeper, becomes assistant general storekeeper on the D.S.S.&A. at Marquette, Mich.

F. H. Haas has been appointed purchasing agent for the UNION PACIFIC, with headquarters at Portland, Ore.

OBITUARY

David B. Fleming, 74, who retired in January 1941 as vice-president and general manager in charge of operation of the NEW YORK CENTRAL, Buffalo and East, at New York, died on August 9 at his home in Syracuse, N. Y.

Clarence E. Eaton, 72, who retired in November 1948 as Eastern general passenger agent of the ATCHISON, TOPEKA & SANTA FE at New York, died on August 7 at New Salem, Mass.

Richard J. Williams, 69, who retired as chief mechanical officer of the CHESAPEAKE & OHIO's Pere Marquette district in 1949, died on August 2 at his home in Alden, Mich.

James W. Hill, 56, vice-president in charge of freight traffic of the CHICAGO, ROCK ISLAND & PACIFIC, died on August 12 at the St. Luke's hospital, Chicago, following a long illness.

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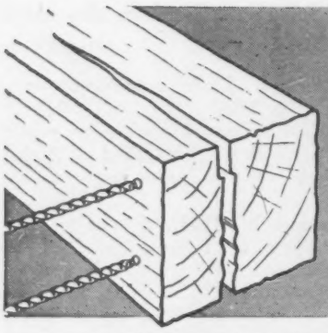

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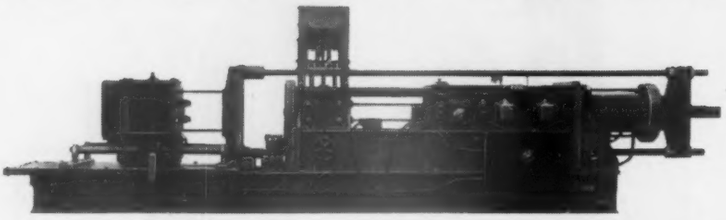

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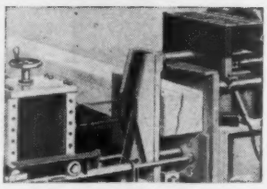
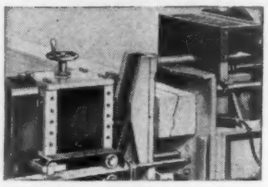
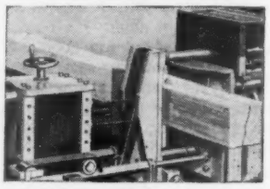


First Step—Ties are automatically fed into the machine, equalized for position and squeezed in the vise.



Second Step—Holes are automatically drilled slightly smaller than dowel size.



Third Step—Dowels are automatically screwed into tie by hydraulic pressure, completing operation. Tie is released and is then ejected by incoming tie.

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Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings.

AIR BRAKE ASSOCIATION.—Lawrence Wilcox, Room 827, 80 E. Jackson Blvd., Chicago 4, Ill. Annual meeting, September 17-19, 1951, Hotel Sherman, Chicago, Ill.

ALLIED RAILWAY SUPPLY ASSOCIATION.—C. F. Weil, American Brake Shoe Company, 6th floor, 109 N. Wabash Ave., Chicago 2, Ill. Exhibit in conjunction with meeting of Coordinated Mechanical Associations, September 17-19, 1951, Sherman Hotel, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—1450 Railway Exchange Bldg., St. Louis 1, Mo. Annual meeting, June 3-5, 1952, Colorado Springs, Colo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C.R.R. of N. J., 143 Liberty St., New York 6, N. Y. Annual meeting on board Georgian Bay Line Cruise Ship, S S. South American enroute Detroit to Chicago, September 15-18, 1951.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5, Ill.

AMERICAN ASSOCIATION OF TRAVELING PASSENGER AGENTS.—C. A. Melin, P. O. Box 5025, Cleveland 1, O. Annual meeting, September 14-15, 1951, Olympic Hotel, Seattle, Wash.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1951, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—R. O. Robertson, Chesapeake & Ohio, C. & O. Building, Huntington 1, W. Va.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division—Neal D. Howard, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 11-13, 1952, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—W. B. Grumley, Nickel Plate Road Magazine, 432 Terminal Tower, Cleveland 1, O. Annual meeting, November 1-3, 1951, Greenbrier Hotel, White Sulphur Springs, West Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—C. E. Huntley, 2000 Massachusetts Ave., N. W., Washington 6, D. C. Annual meeting, October 3-4, 1951, Roosevelt Hotel, New Orleans, La.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, Asst. Secretary, 1916 Race St., Philadelphia 3, Pa.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y. Annual meeting, November 30-December 5, 1951, Hotel Statler, New York City.

Railroad Division—E. L. Woodward, *Railway Mechanical and Electrical Engineer*, 79 W. Monroe St., Chicago 3, Ill.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—W. A. Penrose, 839 Seventeenth St., N. W., Washington 6 D. C. Annual meeting April 22-24, 1952, Hotel New Yorker, New York City.

ASSOCIATED TRAFFIC CLUBS OF AMERICA.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 Federal Reserve Bank Bldg., Cincinnati 2, O. Annual meeting, September 24-26, 1951, Olympic Hotel, Seattle, Wash.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—W. F. Ziervogel, 605 S. Ranken Ave., St. Louis 3, Mo. Annual meeting, October 2-4, 1951, Hotel Statler, St. Louis, Mo.

ASSOCIATION OF AMERICAN RAILROADS.—George M. Campbell, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.—J. H. Aydelott, Vice-president, Transportation Bldg., Washington 6, D. C.

Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Operating Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5, Ill.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.

Communications Section.—A. H. Grothmann, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 2-4, 1951, Chateau Frontenac, Quebec, Que.

Fire Protection and Insurance Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 22-24, 1951, Hotel Statler, Cleveland, O.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5, Ill.

Protective Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5, Ill.

Safety Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5, Ill.

Engineering Division.—Neal D. Howard, 59 E. Van Buren St., Chicago 5, Ill.

Construction and Maintenance Section.—Neal D. Howard, 59 E. Van Buren St., Chicago 5, Ill.

Annual meeting, March 11-13, 1952, Palmer House, Chicago, Ill.

Electrical Section.—Neal D. Howard, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, September 17-19, 1951, La Salle Hotel, Chicago, Ill.

Signal Section.—R. H. C. Balliet. 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, September 10-12, 1951, Edgewater Beach Hotel, Chicago, Ill.

Mechanical Division.—Fred Peronto, 59 E. Van Buren St., Chicago 5, Ill.

Electrical Section.—Fred Peronto, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, September 17-19, 1951, La Salle Hotel, Chicago, Ill.

Purchases and Stores Division.—John L. Timanus, Transportation Bldg., Washington 6. D. C. Annual meeting, June 2-4, 1952, Palmer House, Chicago, Ill.

Freight Claim Division.—C. C. Beaupríe, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 2-4, 1952, Hotel Statler, New York City.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.

Car Service Division.—Arthur H. Gass, Chairman, Transportation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting June 10-13, 1952, Book-Cadillac Hotel, Detroit, Mich.

Treasury Division.—E. R. Ford. Transportation Bldg., Washington 6, D. C. Annual meeting, October 31-November 2, 1951, Palm Beach Biltmore, Palm Beach, Fla

Traffic Department.—Walter J. Kelly, Vice-President, Transportation Bldg., Washington 6, D. C.

Association of Interstate Commerce Commission Practitioners.—Miss Sarah F. McDonough, Executive Secretary, 2218 I.C.C. Building, Washington 25, D. C. Annual meeting, October 4-5, 1951, Congress Hotel, Chicago. Ill.

Association of Railroad Advertising Managers.—C. J. Hoy, Pennsylvania, Union Station, Chicago 6, Ill. Annual meeting, January 25-26, 1952, St. Louis, Mo.

Association of Railway Claim Agents.—F. L. Johnson, Gulf. Mobile & Ohio R. R.. 104 St. Francis St, Mobile 5, Ala. Annual meeting, June 10-13, 1952, Mount Royal Hotel, Montreal, Quebec.

Bridge and Building Supply Men's Association.—L. R. Gurley, Modern Railroads, 201 N. Wells St., Chicago 6, Ill.

Canadian Railway Club.—C. R. Crook, P.O. Box 162, Montreal 3, Que. Regular meetings, second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

Car Department Association of St. Louis.—D. W. Kramer, Relay Depot Mail Room, East St. Louis, Ill. Regular meetings, fourth Tuesday of each month, except June, July and August, Hotel DeSoto, St. Louis, Mo.

Car Department Officers' Association.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 17-19, 1951, Hotel Sherman, Chicago, Ill.

Car Foremen's Association of Chicago.—J. A. Dingess, 8637 South Euclid Ave., Chicago 17, Ill. Regular meetings, second Monday of each month, except June, July and August, LaSalle Hotel, Chicago, Ill.

Central Railway Club of Buffalo.—R. E. Mann, Hotel Statler, McKinley Square. Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

Eastern Association of Car Service Officers.—H. C. Rochester, Canadian National, 891 Notre Dame St. West, Montreal 3, Que. Next meeting, November 8-9, 1951, Parker House, Boston, Mass.

Eastern Car Foreman's Association. — W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February, March, April, May, October and November, 29 W. 39th St., New York, N. Y.

Locomotive Maintenance Officers' Association.—C. M. Lipscomb, 1721 Parker St., North Little Rock, Ark. Annual meeting, September 17-19, 1951, Hotel Sherman, Chicago, Ill.

Maintenance of Way Club of Chicago.—E. C. Patterson, 400 W. Madison St., Chicago 6, Ill. Regular meetings, fourth Monday of each month, October through April, inclusive, except December, when the third Monday, at Eitel's Restaurant, Field Bldg.

Master Boiler Makers' Association. — A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting, September 17-19, Hotel Sherman, Chicago, Ill.

Metropolitan Maintenance of Way Club. — John S. Vreeland, Simmons-Boardman Publishing Corp., 30 Church St., New York 7, N. Y. Meets in February, April, October, and December. Next meeting, October 25, 1951, Hotel Shelburne, New York City.

Military Railway Service Veterans.—Carl N. Rydin, 622 Railway Exchange, Chicago 4, Ill. Annual meeting, September 21-22, 1951, Hollenden Hotel, Cleveland, O.

National Association of Railroad and Utilities Commissioners.—Austin L. Roberts Jr., 7413 New Post Office Bldg., Washington 4, D. C. Annual

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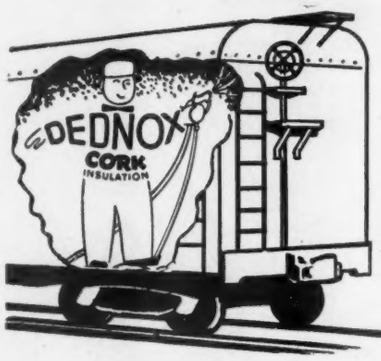

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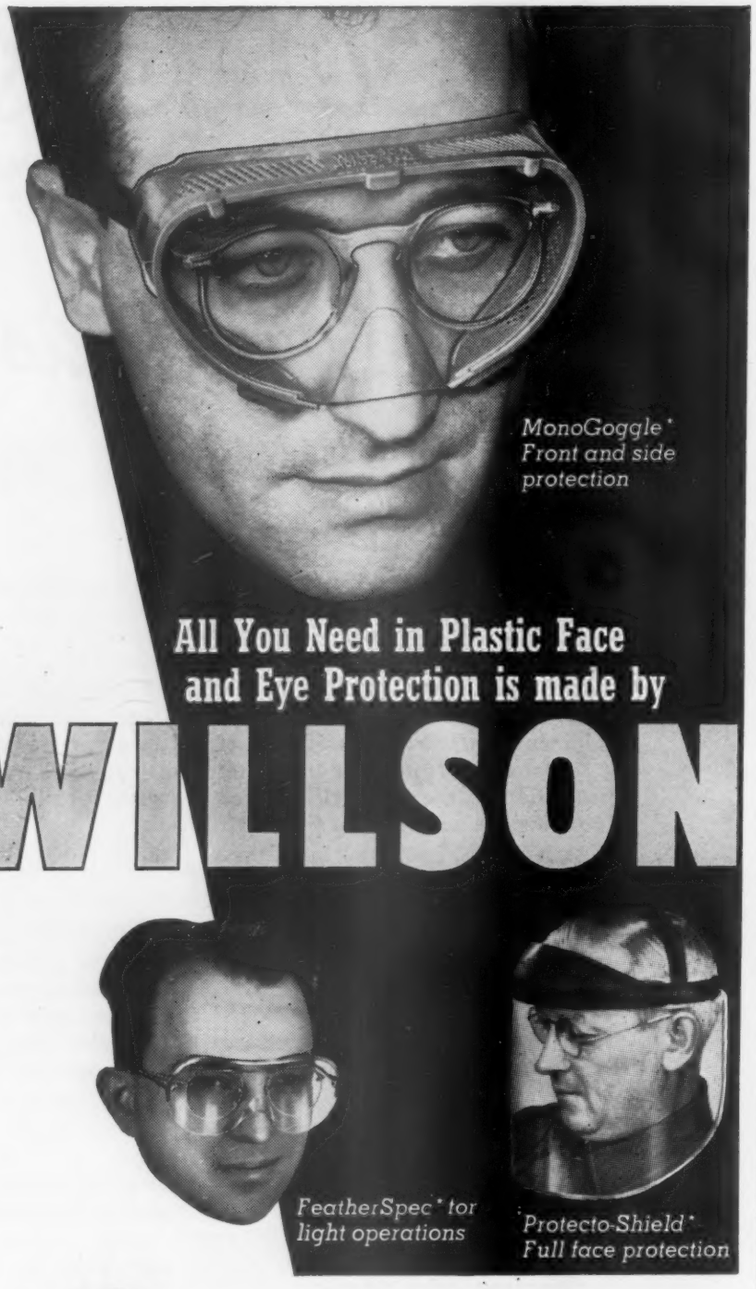

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*T.M. Reg. U.S. Pat. Off.

meeting, October 16-19, 1951, Francis Marion Hotel, Charleston, S. C.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—John N. Lind, National Supply Company, Grant Building, Pittsburgh 30, Pa. Annual meeting, October 9-11, 1951, Hotel Cleveland, Cleveland, O.

NATIONAL DEFENSE TRANSPORTATION ASSOCIATION.—Miss Lois E. Cassavant, 930 F. St., N. W., Washington 4, D. C Annual meeting October 8-10, 1951, Plaza Hotel, San Antonio, Tex.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE. — Edward F. Lacey, 909 Kass Bldg., Washington 5, D. C. Annual meeting, November 15-16, Palmer House, Chicago, Ill.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—R. A. Carr, 310 S. Michigan Ave., Chicago 4, Lewis Thomas, Asst. Secy., 59 E. Van Buren St., Chicago 5, Ill.

NATIONAL SAFETY COUNCIL, RAILROAD SECTION. — R. C. Sabens, New York, Chicago & St. Louis, Terminal Tower, Cleveland 1, O. Annual meeting, October 9-11, 1951, Morrison Hotel, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—William M. McCombs, 35 Lewis Wharf, Boston 10, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—C. T. Stansfield, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION.—C. H. Wells, Northern Pacific Railway, St. Paul 1, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

NORTHWEST LOCOMOTIVE ASSOCIATION. — R. M. Wigfield, Northern Pacific Ry., Room 1134, G. O. Bldg., St. Paul 1, Minn. Regular meetings, third Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB. — S. E. Byler, 121 E. Sixth St., Los Angeles 14, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION. — P. H. Middleton, First National Bank Bldg., Chicago 3, Ill. Annual meeting, November 16, 1951, Hotel Stevens, Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 614 Pittsburgh Life Bldg., Pittsburgh 22, Pa. Regular meetings, fourth Thursday of each month, except June, July, August, September and December, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 445-447 N. LaSalle St., Chicago 10, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—L. H. Peters, New York Central, Room 1213, 139 W. Van Buren St., Chicago 5, Ill. Annual meeting, September 17-19, 1951, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION. — A. W. Brown, 60 E. 42nd St., New York 17, N. Y.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION. — G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section of A.A.R.

RAILWAY TIE ASSOCIATION. — Roy M. Edmonds, 912 Shell Building, St. Louis 3, Mo. Annual meeting, September 26-28, 1951, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1951, Hotel Stevens, Chicago, Ill.

ST. LOUIS RAILROAD DIESEL CLUB.—F. C. Whitlock, Terminal Railroad Association of St. Louis, 376 Union Station, St. Louis 3, Mo. Regular meetings, second Tuesday of each month, Hotel York, St. Louis, Mo. Dinner, 6:45 P.M., meeting, 8 P.M.

SIGNAL APPLIANCE ASSOCIATION. — G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A.A.R. Signal Section.

SOUTHEASTERN RAILWAY DIESEL CLUB. — H. W. Brewer, Seaboard Air Line, Jacksonville, Fla. Regular meetings, second Tuesday in February, April, June, August, October and December, 9:30 a.m., Mayflower Hotel, Jacksonville, Fla.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB. — A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—F. I. Umhau, Southern Ry., Atlanta 3, Ga.

TORONTO RAILWAY CLUB.—J. A. North, P.O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July, and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, O and C Company, 59 E. Van Buren St., Chicago 5, Ill.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago 1, Ill. Meetings scheduled for October 8, November 19 and December 15, 1951, Hotel Sherman, Chicago, Ill.

WESTERN ASSOCIATION OF RAILWAY TAX COMMISSIONERS.—A. B. Olson, 210 South Canal St., Chicago, Ill. Regular meetings, first Wednesday of each month, Traffic Club, Palmer House, Chicago, Ill.

Current Publications

PERIODICAL ARTICLES

Criteria in the Making of Wage Decisions by "Neutrals": The Railroads as a Case Study, by Frederic Myers. The Railroad Workers Journal, May 1951, *pp.* 4-9, *et seq. Railroad Yardmasters of North America, Inc.,* 809 *Lafayette bldg., Buffalo* 3, *N. Y. (Reprinted with permission of Industrial and Labor Relations Review, Cornell University.)*

When collective bargaining breaks down, and wage issues need to be considered by third parties, the question inevitably arises as to the criteria that the third parties should use in reaching a decision. The question of standards, or criteria, which would channel the decision of the third parties, still remains unsettled, although its significance is apparent to arbitrators, courts, legislators, and boards of fact finders. In this article the railroads are considered as a case study. Mr. Myers, who is associate professor of economics at the University of Texas, discusses as the criteria of railroad emergency boards: (a) wage comparisons, external and internal to the industry; (b) changes in costs of living; (c) a living wage and the use of budget studies; (d) effort, skill, responsibility, and hazards of railroad employment; (e) changes in productivity per employee; (f) irregularity of employment; and (g) ability to pay. In conclusion, he states, "It appears, then, that 'neutrals' determining wage changes in the railroad industry have given almost overwhelming consideration to the criterion of comparative wage trends. Evaluation of other criteria has found them to be either impossible of application or subsidiary to the desirability of maintaining wage relationships between the railroad and other industries . . . Railroad wage rates then, under the influence of 'neutrals,' will tend to follow general industry trends, varying only within such limits as will permit the continuance of the organizations as going concerns . . . These conclusions are applicable only under the existing set of organizational, legal, and bargaining facts. Thus, any very great extension of neutral wage determination would make impossible the application of the comparative wage trend criterion. There would be no guideposts outside the system."

Labor's Spokesman in ODM. Business Week, June 23, 1951, *pp.* 34-38. *McGraw-Hill Publishing Company,* 330 *W.* 42*nd st., New York* 18. *Single copies,* 25 *cents.*

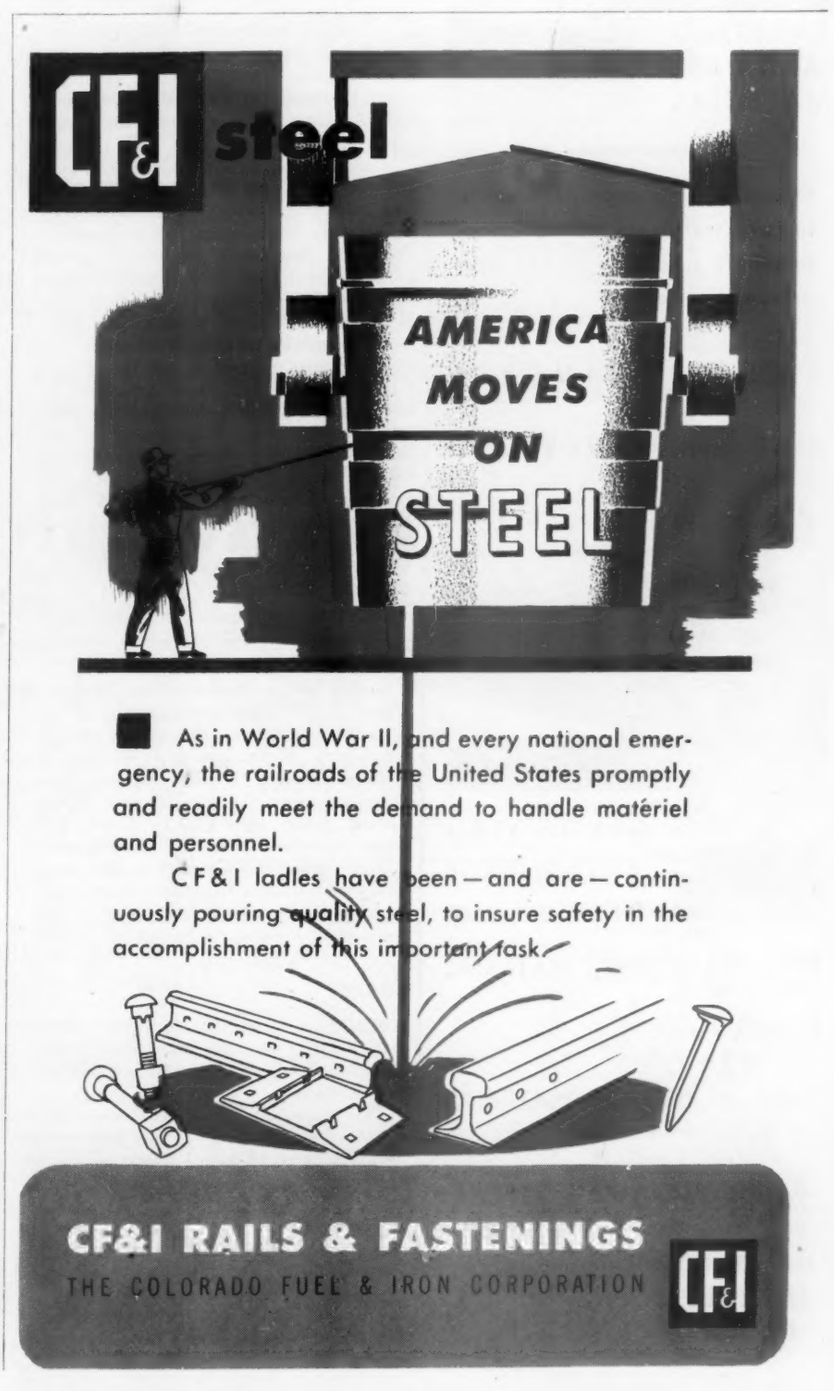
George M. Harrison, president of the Brotherhood of Railway & Steamship Clerks, and labor's top representative in the Office of Defense Mobilization, hasn't power Sidney Hillman had, but he's going to insist on "full recognition" in setting defense policy. He feels his job as Wilson aide is to represent all the public.

Confab, Vol. 2, *No.* 1. *Spring issue,* 1951. *Acme Steel Company, Department A,* 2849 *Archer ave., Chicago* 8. *Free.*

This is the second issue of a new quarterly magazine which Acme is circulating among 70,000 firms to promote an informal interchange of ideas to help them make the best use of its products and services. Featured in this issue are stories of how palletizing reaps results for Nabisco, how strap kits are being used in Korea, and how a Detroit manufacturer has effected a 25 per cent production saving through metal stitching. Also included are an interpretation of the latest government regulations covering wire-stitching and strapping of overseas shipments, a digest of the company's annual report, a chronicle of company news, and a series of cost cutting case histories told in capsule style.

Railroading in New Jersey, by John T. Cunningham. Newark Sunday News, January 7-*April* 29, 1951. *Newark Sunday News, Newark, N. J. Single copies,* 12 *cents.*

This series of 17 articles covers various aspects of railroad history and development in New Jersey. Leading off with a piece on the father of American railroads, Col. John Stevens, successive articles cover the Camden & Amboy; the problems faced by Newark and Paterson, which were beginning to burst their industrial seams, in setting up railroad outlets; the development of the Elizabethtown & Somerville and the Morris & Essex; the founding of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the Delaware, Lackawanna & Western and the building of the Lehigh Valley; the part played by Paterson locomotive builders in supplying equipment; railroad monopolists; adoption of safety measures and devices on early railroad lines; short lines; trials and tribulations of the hardy Jersey commuter during the blizzard of 1888; some of the engineering feats undertaken by Jersey railroads to reduce travel time and operating costs; devices and systems developed for greater safety; railroading's golden quarter century from 1890 to 1915; early suburban and interurban transit lines; development of motive power; the suburban commuter; and railroad hobbyists. Many old and interesting illustrations are included.

Railroads Plus New England Won for Him. Business Week, June 16, 1951, *pp.* 76-82. *McGraw-Hill Publishing Company,* 330 *W.* 42*nd st., New York* 18. *Single copies,* 25 *cents.*

"Combine railroads and New England, and you have something that is a mighty long way from a sure shot in the eyes of the average businessman. But Laurence Frederick Whittemore bet his chips on both railroads and New England years ago—and walked off with the daily double," so says Business Week in this interesting biography of Mr. Whittemore. He is, at present, president of the Brown Company, pulp and paper firm, but he has been a New Hampshire state tax commissioner, assistant to president of the Boston & Maine, president of the Federal Reserve Bank of Boston, and more recently president of the New York, New Haven & Hartford. While with the B. & M. he was responsible for the formation of Boston-Maine Airways, later to become Northeast Airlines.

FILM CATALOG

Supplement to Railroad Film Directory, March 1, 1951. 6 pages, mimeographed. Association of American Railroads, Transportation bldg., Washington 6, D. C. Free.

Since issuance of the Railroad Film Directory in April 1950, 23 new 16-mm. motion picture films and 15 35-mm. film strips have been brought into circulation, and six 16-mm. motion pictures have been withdrawn from circulation. These additions and withdrawals are noted in this supplement to bring the record up to date.

BOOKS

Cable Car Carnival, by Lucius Beebe and Charles Clegg. 135 *pages, illustrations. Grahame Hardy,* 2046 *E.* 14*th st., Oakland* 6, *Cal.* $5.

This beautifully produced book is not only a cheery chronicle of San Francisco's venerable and cherished mode of transport, but also a story of San Francisco and the golden years of its riding in what the authors like to call the "Cable Car Age." They have included not only the cars themselves and those concerned with their origins, introduction and homely destinies, but also the great men of vanished times who rode the cables and the events of the past three-quarters of a century with which the cables have been associated. "Viewed in a vacuum simply as a means of transportation the cable cars would be sufficiently interesting," say the authors, "but it is when viewed as the archetype and essence of San Francisco's way of life that they assume at once a homeliness and grandeur that is as compelling as the sounds of Market street or the fragrance of Pisco Punch." There are more than 150 illustrations of cable cars and of old time and modern San Francisco; the full-color end-paper reproductions of cable car paintings by Evelyn Curro are especially delightful.

Railroading the Modern Way, by S. Kip Farrington, Jr. 395 *pages, illustrations. Coward-McCann, Inc.,* 210 *Madison ave., New York* 16. $7.50.

The title gives a most accurate description of the contents of this publication—a streamlined book about a streamlined industry. The various chapters run the gamut of modern railroading—new trains, fast freights, operating practices, centralized traffic control, yards, radio, Sperry rail service, and diesel-electric and electric locomotives. Nine railroads not covered by Mr. Farrington in his previous railroad books are treated in this one. They are the Bessemer & Lake Erie; Chicago & Eastern Illinois; St. Louis-San Francisco; Kansas City Southern; Pittsburgh & West Virginia; Seaboard Air Line; Virginian; Wabash, and Western Pacific. He also includes chapters on highway traffic and highway crossing accidents. There are 143 excellent photographs of exteriors and interiors of new passenger equipment, railroad operating practices, and scenic views along various lines.

PAMPHLETS

The Baltimore and Ohio; The Story of the Railroad that Grew Up with the United States, by Carroll Bateman. 32 *pages, illustrations. Baltimore & Ohio Railroad, Public Relations Department, Baltimore* 1. *Free.*

A handsome brochure which chronicles the history and development of the B. & O. There are eight chapters: America, 1827—birth of the railroad era; westward to the Ohio (1830-1852); on to Cincinnati and St. Louis (1851-1857); the war between the states (1859-1865); aftermath of war—expansion--a troubled economy (1865-1890); the gay nineties and a new century (1890-1910); Daniel Willard and the B. & O. (1910-1941); and World War II—new advances under R. B. White (1941—). In addition, there is a brief chronology of the B. & O. and a list of B. & O. "firsts."

How to Prepare Your Plant for Atomic Attack. 32 *pages, illustrations. Walter Kidde & Co., Dept. A,* 675 *Main st., Belleville* 9, *N. J. Free.*

In simple language, this booklet presents the latest factual information about the atomic bomb, its destructive potential, and its limitations; a guide to plant management in organizing personnel to cope with possible plant disasters; and recommendations for strengthening plant construction and sustaining production in the face of bomb attack.

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Advertisers IN THIS ISSUE

A

American Brake Shoe Company, Brake Shoe and Castings Division 62, 63
American Hair & Felt Co. 18
American Hoist and Derrick Company 83
American Locomotive Company .. 66, 67
American Steel Foundries 15

B

Bakelite Company, Division of Union Carbide and Carbon Corporation 27
Baldwin-Lima-Hamilton Corporation 20
Bethlehem Steel Company 3
Boyer, R. H. 83
Buffalo Brake Beam Co. 2

C

Chicago Steel Service Company ... 84
Classified Department 83
Colorado Fuel & Iron Corporation 81
Columbia Steel Company 19
Cornell-Dubilier 71
Crane Co. 24

D

Dednox Incorporated 79

E

Edison Storage Battery Division of Thomas A. Edison, Incorporated 21
Electro-Motive Division, General Motors Corporation ....Front Cover

F

Fairbanks, Morse & Co. ..11 to 14 incl.
Frank, M. K. 83
Frost Lumber Industries, Inc. 82

G

General Electric Company 66, 67
General Steel Castings 23
Graham Tie Dowel Service Co. ... 78

H

Hyman-Michaels Company 70

I

Industrial Brownhoist Corporation 68
Iron & Steel Products, Inc. 83

L

Lamson & Sessions Company, The .. 59

N

National Malleable and Steel Castings Company 9
National Pneumatic Co., Inc. 65

O

Okonite Company, The 32

P

Pressed Steel Car Company, Inc. .. 10
Pullman-Standard Car Manufacturing Company 30, 31

R

Railroad Supply and Equipment, Inc. 76
Railway Educational Bureau, The 83
Railway Maintenance Corporation 17
Ross and White Co. 70

S

S K F Industries, Inc., ... 22
Scullin Steel Co. 85
Simmons-Boardman Publishing Company 70, 71
Sonken-Galamba Corporation 83
Speno Railroad Ballast Cleaning Co., Inc., Frank 75
Standard Steel Works Division, Baldwin-Lima-Hamilton Corporation 20

T

Tennessee Coal, Iron & Railroad Company 19
Timken Roller Bearings Co. The ..... Back Cover

U

Union Asbestos & Rubber Company 16
Union Carbide and Carbon Corporation, Bakelite Company Division 27
Union Switch & Signal Company .. 6
Unit Truck Corporation 2
United States Envelope Company 77
United States Steel Company 19
United States Steel Export Company 19

W

Western Railroad Supply Company 73
Westinghouse Air Brake Co. 4
Willson Products, Inc. 80

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